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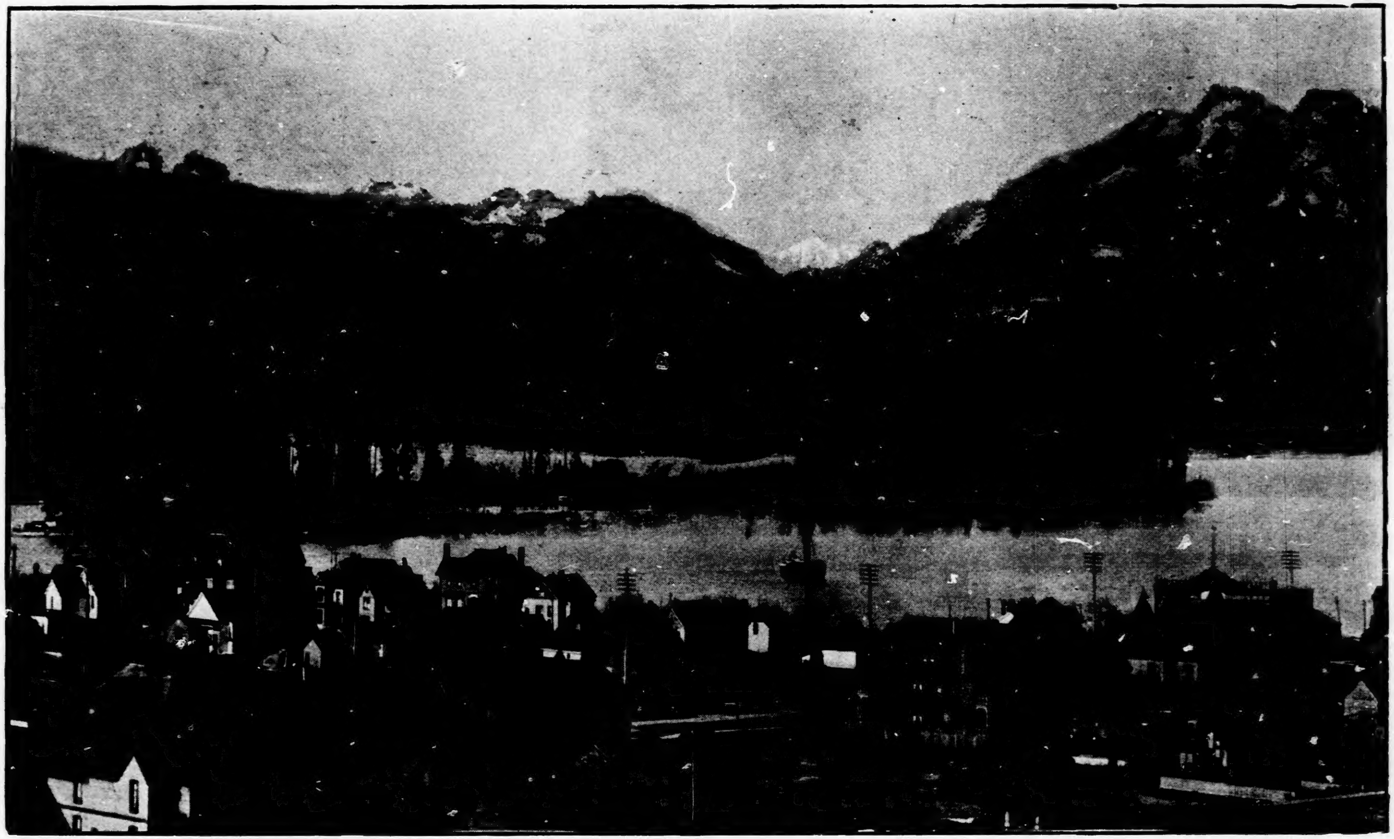

Within the Lions' Gate, Vancouver, B.C.

REPORT

OF THE

VANCOUVER

BOARD OF TRADE

FOR THE YEAR

1895-96.

Vancouver, British Columbia.

CANADA.

INDEX.

PAGE
- Within the Lions' Gate .. Frontispiece
- Past Presidents .. 7
- Officers, 1895-6 .. 7
- Officers, 1896-7 .. 7
- Membership Roll .. 8
- President's Address .. 11
- Secretary's Report .. 19
- Extracts from Minutes .. 20
- Reciprocal Trade .. 22

Lumber Industry—

- Review of .. 22
- Shipments of .. 24
- B.C. Fleet, 1895 .. 26
- Timber Area and Cut .. 28
- B.C. Timber Tests .. 29
- Douglas Fir Tests .. 31
- C.P.R. Chart .. 30

Post Office Returns—

- Comparison, 1894-5 .. 35
- Trans-Pacific Mails .. 35

Fishing Industry—

- Review of .. 36
- Salmon Pack, 1894-5 .. 37
- Annual Pack .. 38
- Columbia River Pack .. 40
- Fishing Boats Licensed .. 41
- Hatcheries .. 42

Shipping Industry—

PAGE
- Review of .. 48
- Average Port Expenses .. 49
- Towage .. 50
- Copy Shipping Accounts .. 54
- Pilotage Dues .. 55
- Customs Returns .. 57
- Revenues, Port of Vancouver .. 58
- Shipping, 1895 .. 59
- Cargoes from sea-going vessels year ending 30th June, 1895 61
- Imports into B.C. for 24 years .. 61
- Exports from B.C. for 24 years 62
- Trade and Navigation Returns 63

Mining Industry—

- I. Cariboo .. 64
  - Table of Results in California .. 72
- II. Kootenay .. 73
- III. Coal Mining .. 87

Agricultural Industry—

- Review of .. 90
- Statistics .. 94
- Vancouver, 1886—After the Fire .. 103
- Vancouver, 1896 .. 104
  - Description of .. 105
  - Extracts from Records of .. 107
  - Customs of the Port .. 108
- Map of B.C. .. 111

OFFICERS, 1895-96.

PAST PRESIDENTS.

1887-8	D. Oppenheimer.	1891-2	John Hendry.
1888-9	D. Oppenheimer.	1892-3	G. E. Berteaux (dec'sed.)
1889-90	E. V. Bodwell (deceased).	"	W. F. Salsbury.
"	R. H. Alexander.	1893-4	J. C. Keith.
1890-91	R. H. Alexander.	1894-5	G. R. Major.

OFFICERS, 1895-6.

PRESIDENT—H. Bell-Irving.

VICE-PRESIDENT—Wm. Godfrey. HON. SECRETARY—Wm. Skene.

COUNCIL.

Alexander, R. H.
Cockburn, F.
Campion, J. W.
Evans, E. E.
Heaps, E. H.
Johnson, C. G.
McFarland, J. W.
McLagan, J. C.
Major, G. R.
Oppenheimer, S.
Pyke, J. A.
Salsbury, W. F.
Tatlow, R. G.
Tisdall, C. E.
Wilson, G. I.

BOARD OF ARBITRATION.

Alexander, R. H.
Cockburn, F.
Campion, J. W.
Evans, E. E.
Johnson, C. G.
Major, G. R.
McLagan, J. C,
Oppenheimer, S.
Pyke, J. A.
Salsbury, W. F.
Tatlow, R. G.
Tisdall, C. E.

OFFICERS, 1896-7.

PRESIDENT—H. Bell-Irving.

VICE-PRESIDENT—Wm. Godfrey. HON. SECRETARY—Wm. Skene.

COUNCIL.

Alexander, R. H.
Buscombe, F.
Cockburn, F.
Darling, H.
Evans, E. E.
Johnson, C. G.
Marani, C. J.
Murray, W.
McFarland, J. W.
McLagan, J. C.
Oppenheimer, S.
Paterson, R. H.
Salsbury, W. F.
Skene, W.
Spicer, H. H.

BOARD OF ARBITRATION.

Alexander, R. H.
Buscombe, F.
Cockburn, F.
Darling, H.
Johnson, C. G.
Marani, C. J.
McFarland, J. W.
McLagan, J. C.
Oppenheimer, S.
Paterson, R. H.
Skene, W.
Spicer, H. H.

MEMBERSHIP ROLL

3rd March, 1896.

A.

Entered.	Name.	Firm.	Business.
1887..	Alexander, R. H.	B.C. Mills T. & T. Co. Ld.	Lumber Merchant.
		B.	
1896..	Barker, Ernest.	Red Cross Brewery.	Brewer.
1889..	Bell-Irving, Hy.	H. Bell-Irving & Co.	Merchant and Shipper.
1895..	Boyd, John.	John Boyd & Co.	Wholesale Plumber.
1895..	Boak, A. A.		Insurance Agent.
1895..	Bowser, W. J.		Solicitor.
1895..	Braid, Wm.	Wm. Braid & Co.	Wholesale Tea & Grocery.
1893..	Brown, Wm.	Can. Pac. Ry.	Local Freight Agent.
1895..	Burns, F. F.	John Boyd & Co.	Wholesale Hardware.
1895..	Buscombe, F.	R. Skinner & Co.	China & Glassware.
		C.	
1891..	Campion, J. W.	B.C. Iron Works Co. Ld.	Secretary.
1891..	Cassady, Geo.	G. Cassady & Co.	Lumber & Shingle Merchant.
1891..	Cockburn, F.	R. G. Dun & Co.	Manager.
1896..	Coltart, Ian.	The Province Publishing Co.	Manager.
1887..	Cotton, F.C., M.P.P	News-Advertiser.	Editor.
1892..	Crawford, J.	Baker, Crawford & Co.	Merchant & Shipper.
		D.	
1895..	Darling H.	Union SS. Co.	Manager.
1896..	Drake, W. E.	McLary Manufacturing Co.	General Agent.
1887..	Dunn, Thomas	T. Dunn & Co. Ld.	Hardware.
		E.	
1890..	Evans, E. E.	Evans, Coleman & Evans.	Coal Merchant and Shipper.
		F.	
1895..	Featherstone, R. D.	Vanc. Sash & Door Factory.	Manager.
1896..	Fraser, J. A.	John Towers & Co.	Merchant.
		G.	
1892..	Godfrey, Wm.	Bank of B.N.A.	Manager.
		H.	
1895..	Hach, Chas.		Furniture & Upholstery.
1890..	Heaps, E. H.	E. H. Heaps & Co.	Mach'y. Agt. & Shingle Mfr.
1890..	Hendry, John.	B.C. Mills T. & T. Co.	Manager.
		J.	
1887..	Johnson, C. G.	Johnson & Burnet.	Ship Broker.
1896..	Jukes, Andrew	Imperial Bank.	Manager.
		K.	
1895..	Ker, W. H.	Brackman & Ker Milling Co.	Miller.
		L.	
1895..	Leckie, R. J.	John Leckie.	Cannery Supplies.

M.

1895	Macaulay, Jas.	Knowles & Macaulay.	W'sale Provision Merchant.
1892	McConnell, G. S.	G. S. McConnell & Co.	Wholesale Boots & Shoes.
1889	McDowell, H.	McDowell, Atkins, & Co.	Druggist.
1887	McFarland, J. W.	McFarland & Mahon.	Mining & Insurance Agent.
1887	McFeely, E. J.	McLennan & McFeely, Ld.	Hardware.
1890	McGillivray, D.	McGillivray & Armstrong,	Contractor.
1895	McGregor, D. C.		Insurance Agent.
1890	McIntosh, W. A.	W. A. McIntosh & Co.	Meat & Cattle Merchant.
1889	McLagan, J. C.	The World.	Editor.
1891	McMillan, W. J.	McMillan & Hamilton.	Wholesale Fruit & Provisions.
1895	McPherson, Wm.		Lumberman.
1890	Major, G. R.	Major & Eldridge.	Meat Packer & Prov. Mcht.
1895	Marani, C. J.	Can. Per. Loan & Sav'gs. Co.	General Agent.
1890	Martin, Robt.	Martin & Robertson.	Grocery Agent.
1893	Murray, Wm.	Bank of British Columbia.	Manager.

O.

1895	Odlum, Prof. E.		Insurance Agent.
1887	Oppenheimer, D.	Oppenheimer Bros. & Co. Ld.	Wholesale Grocer.
1891	Oppenheimer, S.	Oppenheimer Bros. & Co. Ld.	Secretary.

P.

1891	Paterson, R. H.		Commission & Shipping Agt.
1896	Pellew-Harvey, W.	Cassell Gold Extracting Co.	Assayer.
1895	Plunkett, Osborne.		Director of Mines.
1890	Pyke, J. A.		Boots & Shoes.

R.

1895	Ralph, Wm.		Stoves & Hardware.
1895	Ramsay, Jas.	Ramsay Bros. & Co.	Confectionery Manufacturer
1895	Redmond, W. H.	The Ames Holden Co.	Boot & Shoe Manufacturer.

S.

1889	Salsbury, W. F.	Can. Pac. Ry.	Cashier.
1895	Schooley, C. A.	Canadian Oil Co.	Agent.
1895	Shaw, C. W.	John Leckie.	Canning Supplies.
1887	Skene, Wm.	S. Greenshields, Sons & Co.	Wholesale Dry Goods.
1895	Skrine, O. P.	Osmond P. Skrine & Co.	Produce Merchant.
1895	Spicer, H. H.		Shingle Manufacturer.
1896	Stein, W. T.		Accountant.
1895	Stewart, F. R.	F. R. Stewart & Co.	Produce Mcht. & Ham Curer.
1887	Sweeny, Campbell.	Bank of Montreal.	Manager.

T.

1891	Taylor, Walter.	B.C. Fruit Canning Co. Ld.	Manager.
1891	Templeton, Wm.		Groceries and Provisions.
1895	Thomson, Jas.	Hudson's Bay Co.	Local Manager.
1890	Tisdall, C. E.		Fire Arms & Fishing Tackle.
1890	Townley, J. D.	Can. Pac. Ry.	Assistant to General Supt
1896	Twigge, John.		Major-General.

W.

1896	Warren Falk		Colonel, late R.A.
1895	Williams, A., M.P.P.	McPhillips & Williams.	Solicitor.
1891	Wilson, Geo. J.		Dry Goods Mcht. & Canner.
1889	Winch, R. V.	Winch & Bower.	Fruit & Fish Dealer.
1887	Wulffsohn, Johann	Bewicke & Wulffsohn	Banker & Insurance Agent.

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ANNUAL REPORT

OF THE

Vancouver Board of Trade.

March 3rd, 1896.

PRESIDENT'S ADDRESS.

Gentlemen,—At this the close of the year, it will not be out of place for me to review some of the work done by the Board during the past twelve months, and to touch upon various matters of more or less interest to the business community.

Membership Many changes in the personnel of the Board have taken place during the year; the present number of effective members being seventy-two. This is far short of what the membership ought to be; but it is pleasing to note that greater interest is being taken in the proceedings, and that the attendance at the meetings has become more and more satisfactory.

Work Done During the year the following matters, among others, have been discussed and dealt with: Improvements to Vancouver harbour, light-house at Prospect point, and removal of Parthia shoal and Burnaby reef; opening of False Creek for navigation; improvement of channels of Fraser and Skeena rivers; improvement of mail communication with the north and the interior; revision of shipping charges for the port; amendments to the fishery regulations; duties on riveted pipes for mining purposes; duties on component parts of fishing nets; remission of taxation on mortgages and the appointment of a supreme resident court judge for Vancouver. Resolutions have been passed on the questions of preferential trade within the Empire; on the British Pacific railway and on the proposed local marine railway, while a committee has been formed to enquire into and report on the question of establishment of a smelter and refinery in this city. An interesting interview was had with Sir Mackenzie Bowell and the Hon. Mr. Daly, on the 18th of August, when the Board brought various matters of importance to their notice, and on the 6th November a deputation from the Board waited on His Excellency the Governor-General on his arrival at Vancouver.

Lumber The lumber business shows satisfactory signs of improvement, while the recent combinations of interest on the Coast will tend to further advance prices.

Fisheries There has been a marked extension of the salmon canning business during the past season. A good pack has been secured and fair prices have been maintained. The successful results of the Fraser River salmon hatcheries having been demonstrated, it is hoped the Government will lose no time in undertaking similar work on the Skeena. Shipments of halibut continue to be made in fair quantities, showing the value of our deep sea fisheries, which afford opportunity for great development. Prof. E. E. Prince, head of the Dominion fishery department, visited the fisheries of the Province during the season, and the result of his visit is likely to be beneficial. It is understood Mr. Prince is in favour of extending the operations of the hatcheries to northern waters.

Mining The development of the mines in the upper country has been remarkable. The experimental stage has now passed and capital is being freely employed with successful results. Kootenay in particular appears destined to produce great wealth. The population in that country has largely increased and considerable activity is being shown by rival railway companies in pushing their lines into the heart of the mining districts to secure the trade. The hydraulic mines in Cariboo have shown encouraging results. The output of minerals, exclusive of coal, has increased in value from $785,000, in 1894, to about $3,000,000 in 1895.

Coal The total output of coal for British Columbia for the twelve months ending December 31st, 1895, amounts to 939,654 tons, showing a decrease as against the previous year of 73,299 tons, attributed partially to the increasing importation of Welsh anthracite to the California market, and to the use of natural oil as fuel. The business has remained practically stationary during the past five years.

Agriculture For reasons it seems hard to explain agriculture is not as flourishing as it should be, and large quantities of produce which could be grown in the country continue to be imported, though in a less degree than formerly. A growing desire is manifest among farmers to combine for their own protection and a number of branches of the Patrons of Industry have been established at various points in the Fraser valley, the result of which should be beneficial. The Dominion Government sent a travelling model dairy through the Province during last season to instruct dairymen in butter making, while the Government Experimental Farm at Agassiz has done and is doing excellent work. The cultivation of hops is comparatively a new industry, which is receiving increasing attention, and the favourable reports of shipments to Britain, and high prices obtained, give indication of great possibilities.

Fruit Large quantities of fruit continue to be imported which could be grown in British Columbia, but as increasing attention is now being paid to fruit cultivation, and the best methods of marketing, it is to be hoped this will be remedied before long.

Railways Beyond ordinary repairs and improvements, work on railways has been chiefly confined to the mining country of West Kootenay. Under the management of the C.P.R., in that section there are now in operation the following lines: Revelstoke to Arrow Lake, Nakusp & Slocan to Sandon, and the Robson and Nelson. The others are the Kaslo & Slocan and the Nelson & Fort Sheppard, the latter operated by the Spokane & Northern. The Trail and Rossland line, a narrow gauge road, is nearly completed. The principal lines projected are: The Crow's Nest Railway to Nelson, which will open up Eastern Kootenay and bring coal to the smelters; the line from Slocan crossing the Slocan lake to connect with the Nakusp & Slocan; and the line from Rossland to Boundary Creek and the Kettle River district, intended finally to be continued into Southern Okanagan.

The permanent Canadian Pacific Railway station at Vancouver has not yet been commenced, and the temporary sheds doing duty at present are far from satisfactory.

Daily through trains leave and arrive from and for Montreal, and also for Seattle and San Francisco *via* Mission Junction.

While the Canadian Pacific is the only company actually having a railway into Vancouver, merchants have also the advantage of competing rates for through traffic by the Great Northern and Northern Pacific.

The British Pacific In view of the present financial position of the Province, and of the pledges given in connection with the recent loan, the promise of any financial aid by the Province to the British Pacific Railway would be disastrous to the credit of the country. It is sincerely to be hoped that no such burden will be undertaken.

Shipping The shipping of the port continues to increase in a satisfactory manner. The tonnage in port will average for the past twelve months in round numbers about four times that of Victoria, and twice that of Nanaimo. There has also been an increase in the shipping on the Fraser River; a new feature being that of recent years a large number of vessels have loaded salmon direct at the canneries, thus avoiding expense and delay of lighterage.

Steamship Lines The magnificent steamers of the Empress line of the C.P.R make Vancouver their home port and sail every three weeks in summer and every four weeks in winter, carrying Her Majesty's mails, and receive year by year the increased patronage they deserve. These swift boats were built under Admiralty supervision and form part of the Royal Naval reserve. The steamers of the Canadian and Australian steamship line make monthly sailings to Sydney *via* Honolulu and Fiji. As regards local lines, the Union Steamship Co. and the Mainland and Nanaimo make Vancouver their headquarters ; the Canadian Pacific Navigation Co. run a daily boat from and to Victoria ; the boats of the Pacific Coast Steamship Co. of San Francisco call regularly every five days ; there is a steamer plying between Vancouver and Puget Sound ports and between Vancouver and Columbia River, while there is a regular steamship communication with the northern waters of British Columbia.

Harbours The natural advantages of the harbour of Vancouver are so great that the Dominion Government has so far not thought it necessary to incur any expense in improving it, beyond the placing of a small lighthouse at Brockton Point. A light-house and fog-horn on Prospect Point are urgently needed, and it is to be hoped the Government will shortly take some definite action in this, as well as in the matter of removal of Parthia Shoal, provision for the former having been made in the estimates. Of the 755 light-houses in the Dominion of Canada, it is noteworthy that only thirteen were in British Columbia at the close of 1894. The wharfage accommodation of Vancouver, though good, requires extension in the near future to meet the demands of increased business. The banks at the mouth of the Fraser River, on which the stream made serious encroachments, have been protected by mattresses to a considerable extent and apparently with good results.

Nicaraguan Canal and Siberian Railway

The actual undertaking of the Nicaraguan Canal appears likely to be indefinitely postponed, owing to difficulties of construction, but the early completion of the Siberian Railway opens up great possibilities, and the port of Vancouver is likely to derive considerable benefit therefrom.

Vancouver Industries

Besides the extensive lumber mills, sash and door factories, the sugar refinery, B. C. Iron Works, C. P. R. repairing shops, pork packing establishments and creamery already in operation, a new cold storage warehouse was recently established, while the salmon canning business of the Fraser River and Northern waters and the halibut fisheries contribute to the welfare of the city. The question of the establishment of a marine railway for repairing ships has received the attention of the Board, and, provided a suitable site be found, this new industry will be welcomed by all. Ship-building has so far only been carried on on a small scale, and the question of how best to encourage this important industry is worthy of your consideration.

Vancouver, a Financial Centre

By the establishment in Vancouver of the four powerful banks, the Banks of British Columbia, Montreal, and British North America, and the Imperial, besides numerous well-known mortgage and investment companies, representing large capital, the city has become and is generally recognized as a financial centre for the Province.

Smelter and Refinery

A committee of the Board was recently appointed to confer with the City Council on the question of the establishment of a smelter and refinery at Vancouver. It is hoped the information obtained may assist in inducing one of the several firms now investigating the subject to locate their works here.

Third Congress of Chamber of Commerce of the Empire

The third congress of Chamber of Commerce of the Empire will be held in London in June next, to which the Board has been invited to send a delegate by the London Chambers of Commerce, and the invitation has been accepted.

Imperial Institute

The attention of the Board is called to the desirability of better representation of Provincial products at the Imperial Institute. Mr. Harrison Watson, curator of the Canadian section, paid the Province a visit during the autumn and promised every assistance.

Fast Atlantic Service and Pacific Cable

Supported as they are by the vigorous Colonial policy of the Imperial Government, the actual inauguration of these all-important services is not likely to be much longer delayed.

Trade Outlook

The long term of commercial depression has been severely felt throughout the Province and on the whole Coast; but this has been more or less universal, and, considering its age, Vancouver appears to have suffered less than its neighbours. The depression has not been without its advantages. It has tended to make business men more conservative and cautious in their dealings, and has diverted men's attention from speculation in land to the more laudable object of development of the natural resources of the country.

The conclusion of the war between China and Japan and the important treaties then made have given a great impetus to industrial advancement in both countries, which will not be without effect on us, while the revival of confidence and general advance of prices in Eastern Canada, the United States and Great Britain, and the increased activity in the rich mining country of the interior of the Province, all point to a time of greater prosperity. This feeling has been somewhat marred by the sudden and unfortunate tension between Great Britain and the United States over the Venezuela boundary, and by complications in the Transvaal. With the strong Imperial Government now in power a peaceful settlement is to be expected, honourable to all.

Preferential Trade within the Empire The spontaneous and unanimous outburst of loyal and patriotic feeling from British possessions in all parts of the world during the recent crisis has served to draw closer the integral parts of the Empire. There are strong indications that the British public—slow to appreciate any new idea—no longer looks upon the doctrine of free trade with the same air of sanctity as of old. A British Minister recently stated that "he hoped the result of the present Government's tenure of office would make the British Empire not merely a figure of speech but a living reality. That he hoped the Government would be able to do something towards bringing all parts of this great Empire into closer connection by strengthening the ties of loyalty, of race, of self-interest, and thus succeed in making the British Empire not only more capable of self-maintenance in time of war, but more capable of self-preservation in time of peril." Nothing can bring about all these results so speedily or so surely as preferential trade within the Empire, and, comparatively insignificant though our efforts may be, it behooves us to do our utmost to further this great object, which means so much for the future welfare and prosperity of Canada and for the British Empire as a whole.

H. BELL-IRVING,
President.

◆

Secretary's Report for the year 1895-96.

MEETINGS.

General Meetings of the full Board	7
Special " " "	3
Meetings of the Council	11

MEMBERSHIP.

Members on the Roll, March, 1895	69
" " " " 1896	72

ALTERATION OF BY-LAWS.

September 11th, Resolved :—That By-law No. XII shall now read: "The entrance fee for any person desirous of joining the Board of Trade shall be $5.00 (five dollars) in addition to his annual subscription.

TIME OF MEETING.

December 3rd, Resolved :—That in future the meetings of the Board be held monthly, on the first Tuesday in each month, at 8 p.m.

FINANCES.

All liabilities of the Board paid to date:

Credit Balance in Bank of Montreal	$524 22
Cash on hand	17 00
Unpaid dues for current quarter	99 00
Arrears	00 00
Total	$640 22

WM. SKENE,

March 3rd, 1896. *Hon. Sec.-Treasurer.*

EXTRACTS FROM MINUTES.

[Copy of address presented to the Hon. Sir Mackenzie Bowell, at Hotel Vancouver, 18th August, 1895.)

To the Hon. Sir Mackenzie Bowell, K.C.M.G., Premier of Canada.

SIR,—We the members of the Vancouver Board of Trade, embrace the opportunity so kindly afforded us of extending to you a cordial welcome on this the occasion of your first visit to our Province as Premier of the Dominion, and of likewise welcoming to our city your colleague the Hon. T. M. Daly, Q.C., Minister of the Interior and Superintendent-General of Indian Affairs.

We venture to express our warm appreciation of your efforts towards the extension of Intercolonial Trade and to hope, now that the question is receiving that special attention from the Right Honourable the Minister for the Colonies which its importance demands, that even greater results will shortly ensue.

We have followed with deep interest the proceedings of the Ottawa Conference, the inauguration of which was so largely due to your initiative and the Imperial significance of which cannot be over-estimated.

We would respectfully call your attention to the desirability of the present Canadian-Australian steamship service being as soon as possible raised to the position of a first-class mail and passenger line. As a completion of the chain of communication, we look forward with interest to the early consummation of the Pacific cable, and of a fast Atlantic service, and feel confident that your Government will spare no effort towards bringing about those desired results, which are of such great importance to the Dominion and to the future welfare of our City.

Recognizing the desirability of a general Insolvency Act for the Dominion, we trust the time is not far distant when such a measure may be brought to a practical and satisfactory issue.

We are pleased to observe that your Government has seen fit to send an experienced commissioner to British Columbia to personally investigate the important Fishing Industries of this Province, and hope that his labours may result in placing the regulations in general, on a more permanent and satisfactory basis, and further that in view of the beneficial results of the existing hatcheries, these may be extended as well on the Fraser River as on the Northern and Interior waters.

In view of the constantly increasing importance of our shipping interests, we would bring to your notice the desirability of the early removal from Vancouver harbour of the shoals known as Burnaby Reef and Parthia Shoal ; of the erection of a light-house at the entrance to the harbour and of the re-opening of False Creek for navigation.

In the interest alike of shipping and agriculture, we would impress upon you the urgency of steps being taken for the improvement and maintenance of the channels of the Fraser River.

In consequence of the increasing importance of settlements on the Northern Coast, we consider that such merit an extension and improvement in the mail service of this district.

In the interests of local industries, we would desire to call your attention to the manner in which, first, the present ruling of the Customs Department in regard to duties upon certain component parts of fishing nets and seines, and secondly, plates used for the manufacture of riveted pipes for mining and similar purposes, discriminate in favour of the completed articles when manufactured abroad, to the serious detriment of labour and enterprise.

We think that the time has now come when the question of the foreshore rights within the municipality of Vancouver should be definitely settled—the present uncertainty of ownership being detrimental to the prosperity of the City.

Trusting that these matters may receive the consideration of your Government,

We are, your humble and obedient servants,

WM. SKENE, H. BELL-IRVING,
Hon. Secretary. *President.*

Reciprocal Trade Within the Empire.

Copy of resolution of the full Board at its meeting, 12th February, 1896:

Resolved: "That in view of recent unanimous expressions of loyal and united feeling from British possessions in all parts of the world, making towards a closer consolidation of the British Empire, the present is, in the opinion of this Board, an opportune time for initiating practical legislation towards securing closer commercial relations between the Mother Country and her Colonies, and between the Colonies themselves, by a system of interchange of products and manufactures on preferred terms throughout the British Empire," and "That a copy of this resolution be sent to Sir Charles Tupper and to the Secretary of the Chamber of Commerce, London, Eng."

LUMBER INDUSTRY.

Vancouver is the principal seat of the timber trade of British Columbia, Burrard Inlet, on which the city is situated, having been the home of the industry for thirty years, and until it became the terminus of the Canadian Pacific Railway its waters were frequented only by vessels loading at the saw mills established on its shores.

Although the forests of British Columbia comprise a considerable variety of the conifers, the export trade is confined to Douglas fir, cedar and spruce. The first-named is the principal article of export, the trade being one of the most important in the Province; cargoes of it are sent all over the world, and in the different markets the wood is rapidly growing in favour.

THE DOUGLAS FIR *(abies Douglasii)*, sometimes called by commercial usage, though improperly, "Oregon pine," attains a great size, and its freedom from branches for the greatest portion of its height permits of its being furnished as spars or square timber of great length, and almost free from knots. For masts and spars its excellence has long been recognized, as its lightness, combined with great strength and elasticity, is a special recommendation for this purpose. As examples of its size, may be mentioned the shipment of masts 28 inches diameter and 120 feet in length, and of timber 36 inches square and 70 feet in length. This combination of lightness with strength has also attracted the attention of railway companies, and it is now largely used in car construction, whereby a great saving is effected in the tare of the cars. It is also highly esteemed for bridge construction on account of the great lengths in which it can be furnished, its high power of resistance, and the general uniformity of its breaking strain, as proved by a series of experiments lately made in London, Eng.

British Columbia Red Cedar is also becoming much valued ; it takes a handsome polish, and is being extensively used in all kinds of interior finishing. It is also largely manufactured into doors, which, when finished in the natural colour of the wood, present a very elegant appearance. Large shipments are made of this wood in the shape of shingles, and in these quite an important trade has been developed.

Spruce is principally manufactured into boxes, the canned salmon trade using the greater part of the present production.

The timber trade is but in its infancy in British Columbia, and although general conditions are not favourable to a large expansion at present, the enormous forest wealth is certain to make this industry one of the chief factors in the future prosperity of the Province. Exclusive of shipments by the steamer lines to Japan and Australasia, the trade during 1895 employed 49 vessels, of an aggregate capacity of 48,560 tons, the total export capacity by sea from Vancouver having been 45,427,772 feet board measure ; while for the same period the sendings by rail amounted to about 6,983,882, making a grand total of 52,411,654 feet.

Shipments of Lumber by Sea from Vancouver, 1895.

QUANTITIES IN FEET—BOARD MEASURE.

Destination.	Hastings Mill.	Moodyville Saw Mill.	Geo. Cassady & Co.	Royal City Planing Mills.	Totals.
South Africa	9,589,949	....	....	....	9,589,949
Australia	5,749,045	1,404,999	....	70,723	7,224,767
Chili	4,886,532	1,222,875	....	....	6,109,407
California	2,539,855	....	3,082,886	3,275	5,626,016
U. Kingdom and Continent of Europe	5,475,066	....	....	....	5,475,066
China	681,505	3,531,967	....	....	4,213,472
Argentina	2,452,704	....	....	....	2,452,704
Mexico	1,500,612	863,855	....	....	2,364,467
Nova Scotia	1,162,133	....	....	....	1,162,133
Peru	805,277	....	....	....	805,277
Japan	314,781	78,733	....	11,000	404,514
TOTALS	35,157,459	7,102,429	3,082,886	84,998	45,427,772

TOTALS	35,157,459	7,102,429	3,082,886	84,998	45,427,772

)E ANNUAL

BENDING STRESS OF . FOY, MORGAN & CO.

DEFLECTION—INCH. A			EQUIVALENT UPON BEAM. B 5 ins. × D 15 ins.		REMARKS.
62,000	66,000	70,000	lbs.	tons	
.747	.805	.875	)0,487 =	44.9	Bent to 5ins. and remov'd
.728	.782	.842	)8,762 =	44.1	do do
.763	.840	.940	)0,262 =	44.8	do do
.710	.803	.980	83,137 =	37.1	do do
.684	.789	.918	83,163 =	37.1	do do
,726	.804	.911	93,162 =	41.6	

UPTURE UNDER A GI

E							
DE					ULTIMATE STRESS.		REMARKS.
300,000	320,000	340,000	580,000	600,000	Total	Per square inch.	
					lbs.	lbs.	
.142	.148	.154	.....	.....	578,500	4,001	Crushed.
.140	.146	.155	.....	.....	576,000	4,010	do
.153	.161	.169	.....	.....	531,480	3,691	do
.151	.159	.168	.....	.....	492,200	3,390	do
.161	.170	.180	.....	.....	480,100	3,306	do
.149	.157	.165	.....	.....	531,656	3,680	

ED THE MANUSCRIPT

E. 11th November, 1895.

VANCOUVER BOARD OF TRADE

RESULTS OF EXPERIMENTS TO ASCERTAIN THE RESISTANCE TO DEFLECTION AND RUPTURE UNDER A GRADUALLY INCREASED BEN

LOAD APPLIED AT CENTRE.

Test No.	Description.	Dimensions. B	×	Dimensions. D	Length	Weight	Total Stress in Pounds 10,000	14,000	18,000	22,000	26,000	30,000	34,000	38,000	42,000	46,000	50,000	54,000	58,000	62,00
D D	All received 22 ft. long.	inches			ft. ins.	lbs.														
3,178	British Columbian Pine (Douglas Fir)	12.00	×	15.00	13,,6½	704½	.073	.127	.180	.230	.282	.332	.380	.430	.482	.537	.585	.640	.690	.747
3,180	do out of one log.	12.00	×	15.15	13,,7¼	664	.072	.130	.185	.232	.284	.332	.380	.432	.482	.528	.580	.628	.677	.72
3,182	do	12.00	×	15.00	13,,7	621	.058	.114	.168	.225	.277	.330	.380	.437	.486	.541	.596	.650	.705	.76
3,184	do do.	12.00	×	16.06	13,,7	628	.058	.110	.157	.206	.255	.300	.348	.392	.437	.483	.530	.585	.627	.710
3,186	do	12.04	×	16.02	13,,6¼	639	.063	.113	.159	.203	.247	.292	.335	.380	.420	.466	.512	.561	.618	.684
	Mean	**12.01**	×	**15.45**	**13,,6¾**	**651¼**	**.065**	**.119**	**.170**	**.219**	**.269**	**.317**	**365**	**.414**	**.461**	**.511**	**.561**	**.613**	**.663**	**,72**

RESULTS OF EXPERIMENTS TO ASCERTAIN THE RESISTANCE TO DEPRESSION AND RUPTU

LENGTH FOR TESTING ONE HUNDRED INCHES.

Test No.	Description.	Dimensions.	Area.	Test No. under Bending Stress.	Weight. Actual.	Weight. Per Cubic foot.	Total Stress in Pounds. 40,000	60,000	80,000	100,000	120,000	140,000	160,000	180,000	200.000	220,000	240.000	260,000	280,000	300,000
D D		inches	sq. ins.	D D	lbs.	lbs.														
3,179	British Columbian Pine	12.05 × 12.00	**144.60**	3,178	332½	**39.73**	.021	.032	.043	.052	.063	.072	.082	.090	.100	.107	.114	.122	.132	.142
3,181	do out of one log	11.97 × 12.00	**143.64**	3,180	315½	**37.95**	.021	.032	.042	.051	.060	.069	.080	.090	.100	.106	.114	.122	.130	.140
3,183	do	12.00 × 12.00	**144.00**	3,182	304¼	**36.51**	.027	.043	.053	.063	.073	.081	.090	.099	.108	.117	.126	.135	.144	.153
3,185	do do.	12.10 × 12.00	**145.20**	3,184	291½	**34.69**	.030	.040	.050	.061	.070	.080	.090	.098	.108	.115	.123	.130	.141	.151
3,187	do	12.10 × 12.00	**145.20**	3,186	299¼	**35.61**	.034	.044	.054	.066	.078	.088	.097	.108	.114	.125	.132	.142	.150	.161
				Mean	**308½**	**36.90**	**.027**	**.038**	**.048**	**.059**	**.069**	**.078**	**.088**	**.097**	**.106**	**.114**	**.122**	**.130**	**.139**	**.149**

DRAWINGS OF THE VARIOUS FRACTURES ACCOMPANIED TH

Messrs. FOY, MORGAN & CO., 104 and 105 Bishopsgate Street Within, London, E.C.

OARD OF TRADE ANNUAL REPORT.

A GRADUALLY INCREASED BENDING STRESS OF FIVE LOGS OF BRITISH COLUMBIAN PINE RECEIVED FROM MESSRS. FOY, MORGAN & CO.

DISTANCE BETWEEN SUPPORTS, TWELVE FEET.

IN POUNDS.		DEFLECTION—INCH, AT THE FOLLOWING LOADS.														ULTIMATE STRESS.		EQUIVALENT UPON BEAM. B 15 ins. × D 15 ins.		REMARKS.	
46,000	50,000	54,000	58,000	62,000	66,000	70,000	74,000	78,000	82,000	86,000	90,000	94,000	98,000	102,000							
																lbs.	tons	lbs.	tons		
.537	.585	.640	.690	.747	.805	.875	0.98	1.23								80,390	= 35.9	100,487	= 44.9	Bent to 5ins. and remov'd	
.528	.580	.628	.677	.728	.782	.842	0.94	1.10								80,590	= 36.0	98,762	= 44.1	do	do
.541	.596	.650	.705	.763	.840	.940	1.10	1.28								80,210	= 35.8	100,262	= 44.8	do	do
.483	.530	.585	.627	.710	.803	.980	1.19									76,240	= 34.0	83,137	= 37.1	do	do
.466	.512	.561	.618	.684	.789	.918	1.14									76,140	= 34.0	83,163	= 37.1	do	do
.511	**.561**	**.613**	**.663**	**,726**	**.804**	**.911**	**1,07**									**78,714**	**= 35.1**	**93,162**	**= 41.6**		

CE TO DEPRESSION AND RUPTURE UNDER A GRADUALLY INCREASED THRUSTING STRESS.

ENDS FACED ACCURATELY TRUE IN LATHE.

TOTAL STRESS IN POUNDS.				DEPRESSION—INCH, AT THE FOLLOWING LOADS.																		ULTIMATE STRESS.		REMARKS.
220,000	240,000	260,000	280,000	300,000	320,000	340,000	360,000	380,000	400,000	420,000	440,000	460,000	480,000	500,000	520,000	540,000	560,000	580,000	600,000			Total	Per square inch.	
																						lbs.	lbs.	
.107	.114	.122	.132	.142	.148	.154	.163	.172	.182	.191	.199	.209	.219	.230	.242	.250	.269					578,500	4,001	Crushed.
.106	.114	.122	.130	.140	.146	.155	.164	.171	.182	.190	.200	.210	.220	.230	.241	.250	.264					576,000	4,010	do
.117	.126	.135	.144	.153	.161	.169	.178	.188	.198	.208	.218	.228	.240	.255	.275							531,480	3,691	do
.115	.123	.130	.141	.151	.159	.168	.179	.189	.200	.209	.218	.230	.247									492,200	3,390	do
.125	.132	.142	.150	.161	.170	.180	.191	.201	.213	.225	.237	.250	.290									480,100	3,306	do
.114	**.122**	**.130**	**.139**	**.149**	**.157**	**.165**	**.175**	**.184**	**.195**	**.205**	**.214**	**.225**	**.243**									531,656	3,680	

OUS FRACTURES ACCOMPANIED THE MANUSCRIPT REPORTS.

DAVID KIRKALDY & SON, 99 Southwark Street, London, S.E. 11th November, 1895.

British Columbia Lumber Fleet, 1895.

NAME.	SAILED.	FROM	FOR	CARGO FT.	VALUE	ARRIVED	RATE.
American schooner Aida	Jan. 14.	Vancouver (Moodyville)	Shanghai	629,000	$ 6,400	Arrived	42s
British bark Cadzow Forest	Jan. 29.	Vancouver	Melbourne	827,795	6,926	April 23	41s 3d
American schooner Glendale	Jan. 19.	Vancouver	San Pedro	341,382	2,852	Arrived	Private
American bark W. F. Witzemann	Jan. 31.	Vancouver	San Pedro	493,000	4,716	Arrived	Private
American steamship Lakme	Jan. 24.	Victoria	San Francisco	277,500	2,220	Arrived	Private
American barkentine C. C. Funk	Jan. 24.	Westminster	Los Angeles	606,647	4,259	Arrived	Private
American schooner Beulah	Jan. 28.	Westminster	San Pedro	337,800	4,063	Arrived	Private
Chilian ship Hindostan	Feb. 22.	Vancouver (Moodyville)	Valparaiso	1,206,875	9,566	May 16	Owners ac
Nicaraguan bark Bundaleer	Feb. 12.	Vancouver	Santa Rosalia	716,930	5,467	March 30	$8.00
British bark Carnmoney	Mar 22	Vancouver	France	902,230	15,000	Aug. 25	63s 3d
Hawaiian schooner Queen City	Feb. 14.	Vancouver	Hiogo	169,086	2,472	April 13	Private
German bark Artemis	Mar. 22	Vancouver	Valparaiso	988,714	9,113	Arrived	Private
American bark Melrose	April 12	Cowichan	Santa Rosalia	500,000	3,500	Arrived	Private
British bark Glanivor	April 23	Vancouver	Bordeaux	788,054	12,500	Oct 29	Private
British ship Olivebank	April 25	Vancouver	South Africa	2,323,684	15,453	Aug. 12	Private
Hawaiian bark Leahi	Mar. 22	Westminster	California	508,333	3,588	Arrived	Private
American schooner Falcon	Mar. 8.	Westminster	Oakland, Cal	296,666	2,158	Arrived	Private
American schooner Glendale	Mar. 11	Westminster	San Francisco	420,000	3,650	Arrived	Private
American barkentine C. C. Funk	Mar. 30	Westminster	California	694,000	4,770	April 17	Private
American schooner Olga	Mar. 29	Westminster	California	593,500	3,869	Arrived	Private
American schooner R. W. Bartlett	April 17	Westminster	California	629,167	4,710	Arrived	Private
Nicaraguan barkentine Wrestler	July 3.	Westminster	Shanghai	526,873	4,625	Sept. 8.	Private
American schooner Lucy	April 30	Westminster	California	400,000	2,551	May 16	Private
British ship Blairgowrie	June 29	Vancouver	South Africa	1,198,876	10,700	Arrived	62s 6d
American schooner Peerless	April 21	Vancouver	California	365,000	4,500	Arrived	Private
American schooner Meteor	April 25	Vancouver	California	653,666	6,006	Arrived	Private
American schooner Volunteer	May 6.	Vancouver (Moodyville)	Shanghai	799,937	6,900	Arrived	27s 6d
Chilian bark Lake Leman	May 23.	Vancouver	Valparaiso.	795,599	6,552	Arrived	Owners ac
American schooner Falcon	May 2.	Westminster	San Francisco	301,300	2,158	Arrived	Private
British ship Earl of Hopetoun	May 23.	Vancouver	Adelaide	1,468,980	11,956	Oct. 27	43s
American barkentine Mary Winkleman	May 4.	Westminster	California	589,903	4,102	Arrived	Private
American schooner Compeer	May 12.	Vancouver	California	430,000	5,000	Arrived	Private
British ship City of Florence	July 9.	Vancouver	Antwerp	838,636	14,376	Jan. 8	65s
British ship Aigburth	June 13	Vancouver	Valparaiso, f.o	1,426,964	11,535	Aug. 11	41s 6d
American schooner Puritan	June 6	Vancouver (Moodyville)	Tientsin	249,000	6,332	Arrived	55s
American schooner Aida	May 29	Vancouver (Moodyville)	Shanghai	637,000	6,600	July 25	47s 6d

American bark Arcturus	June 6.	Vancouver	Santa Rosalia	822,503	$ 6,301	June 26.	Private
American schooner Comet	May 23.	Westminster	California	524,510	4,223	June 4	Private
American barkentine Jane L. Stanford	June 29	Cowichan	Santa Rosalia	243,744	5,000	July 25	Private
American schooner Peerless	June 18	Vancouver	California	305,171	2,475	Arrived	Private
American barkentine Monitor	June 13	Vancouver	California	262,680	2,200	June 26	Private
American barkentine North West	July 25	Westminster	San Francisco	564,424	3,950	Arrived	Private
American barkentine Planter	July 17	Vancouver	San Francisco	591,043	3,802	July 23	Private
Nicaraguan bark Bundaleer	July 22	Westminster	Sydney	723,732	5,423	Oct. 23	36s 3d
Danish bark Cimbria	Aug. 10	Vancouver	France	851,958	12,441		66s 3d
British ship Duke of Argyll	Aug. 12	Vancouver	Adelaide	662,561	5,523	Dec. 2	38s 9d
American bark Newsboy	Aug. 1.	Vancouver	Shanghai	670,915	7,300	Arrived	52s 6d
American schooner Alice Cooke	Aug. 15	Vancouver	Sydney	853,154	7,610	Arrived	35s
Chilian ship Republic	Aug. 22	Vancouver	Valparaiso	884,880	9,506		45s
American ship Alameda	Aug. 15	Vancouver (Moodyville)	Sydney	1,046,303	8,000	Arrived	35s 6d
American schooner Emma Claudina	Aug. 3.	Vancouver	Los Angeles	277,088	2,000	Arrived	Private
American schooner Glendale	Aug. 2.	Vancouver	San Pedro	322,000	2,767	Arrived	Private
Hawaiian schooner Americana	Sept. 5.	Vancouver	South Africa	1,008,097	8,379	Jan. 7	
American schooner R. W. Bartlett	Aug. 18	Westminster	California	475,000	5,500	Arrived	Private
American schooner W. F. Witzemann	Aug. 27	Vancouver	California	498,000	3,317	Arrived	Private
Norwegian ship Prince Amadeo	Oct. 2	Vancouver	Halifax	673,000	15,610		Private
Norwegian steamship H. W. Jarlsberg	Oct. 6	Vancouver	South Africa	2,032,000	16,250		75s
Norwegian bark Prince Louis	Nov. 7	Vancouver	London	1,000,566	9,124		Private
American bark Arcturus	Oct. 19.	Vesuvius Bay	Santa Rosalia	700,000	3,000	Arrived	Private
British bark Shakespeare	Oct. 14.	Vancouver	South Africa	533,000	4,300		Private
American bark Enoch Talbot	Oct. 24.	Vancouver	California	827,346	6,000	Arrived	Private
Norwegian ship Prince Frederick	Nov 10	Vancouver	Belfast	1,177,408	10,598		Private
American schooner Aida	Oct. 13.	Vancouver (Moodyville)	Shanghai	687,788	5,982	Dec. 26.	47s 6d
Chilian bark India	Nov. 30	Vancouver	Valparaiso	801,597	6,508		Owners ac
American schooner W. F. Witzemann	Nov. 15	Cowichan	Santa Rosalia	500,000		Dec. 18.	Private
Norwegian bark Prince Victor	Dec. 21	Vancouver	Valparaiso	803,279	6,425		Private
Norwegian steamship Mathilda	Dec. 29	Vancouver	Buenos Ayres	2,450,880	19,485		40s
Norwegian steamship Florida	Dec. 21	Vancouver	South Africa	2,453,108	21,523		Private
American ship J. C. Potter	Dec. 28	Vancouver (Moodyville)	Santa Rosalia	883,855	6,233		Private

Summary of Vessels.

From the port of Vancouver, Burrard Inlet	48	41,630,571 feet
" " " New Westminster, Fraser River	16	8,191,855 "
Total from Mainland of British Columbia	64	49,822,426 "
Total from Vancouver Island	5	2,221,244 "
Grand total	69	52,043,670 "

Area and Amount of Timber Cut.—(From B. C. Crown Lands Returns, Dept. of Interior and Indian Affairs.)

Total for Provincial, Dominion and Indian Lands.

Years.	Area under Lease.	Quantity of Lumber Manufactured.	Ties.	Shingles.	Trespass, Interest, &c.	Timber Dues, Royalties, &c.	Ground Rents and Licenses.	Bonus.	Total Receipts.
	Sq. miles	Feet, B.M.	Pieces.	M.	$ c.	$ c.	$ c.	$ c.	$ c.
1887	18 56	7,144,868	....	137	1,817 91	3,723 76	1,531 85	8,067 95	15,141 47
1888	239.12	56,305,279	....	....	14,645 85	20,244 40	6,211 18	2,682 50	43,783 93
1889	330.29	66,311,164	....	....	233 30	33,481 42	11,445 76	4,192 50	49,252 98
1890	404 50	95.860.913	....	....	98 13	62,073 26	20,635 08	11,131 25	93,937 72
1891	608.59	115,613,057	10.119	520	120 26	56,303 61	21.199 97	19,275 02	99,898 86
1892	847.07	84,392,536	....	1,000	183 52	54,073 33	40,542 91	2,626 50	97,426 26
1893	1,172 25	76,851,93	....	940	583 23	54,997 86	48,665 90	4,693 25	108,940 25
Totals	3,620 38	502,479,780	10,119	2,597	17,682 20	284,897 64	153,232 65	52,568 97	508,381 47
Average	517.20								

AREA AND AMOUNT OF TIMBER CUT.—(From B.C. Crown Lands Returns).—Provincial Lands.

Years.	Area under Lease.	Quantity Manufactured.	Royalty.	Rental.	Licenses.	Total Receipts.
	Sq. miles.	Feet, B.M.	$ c.	$ c.	$ c.	$ c.
1887	*	....	....	....	....	....
1888	211	31,868,384	†12,675 59	5,540 83	....	18,216 42
1889	280	42,551,222	21,227 28	9,256 93	....	31,184 21
1890	352½	79,177,055	29,677 71	15,614 03	....	45,291 74
1891	427¼	83,108,335	31,479 06	20,404 23	....	51,883 29
1892	603¼	64,186,820	32,093 41	31,673 63	2,600 00	66,367 04
1893	776½	60,587,300	30,293 68	42,737 68	2,950 00	75,981 36
Totals	2,650½	361,479,116	157,446 73	125,927 33	5,500 00	288,924 06
Average	441¾					

* No Provincial Returns of Lumber for 1887.

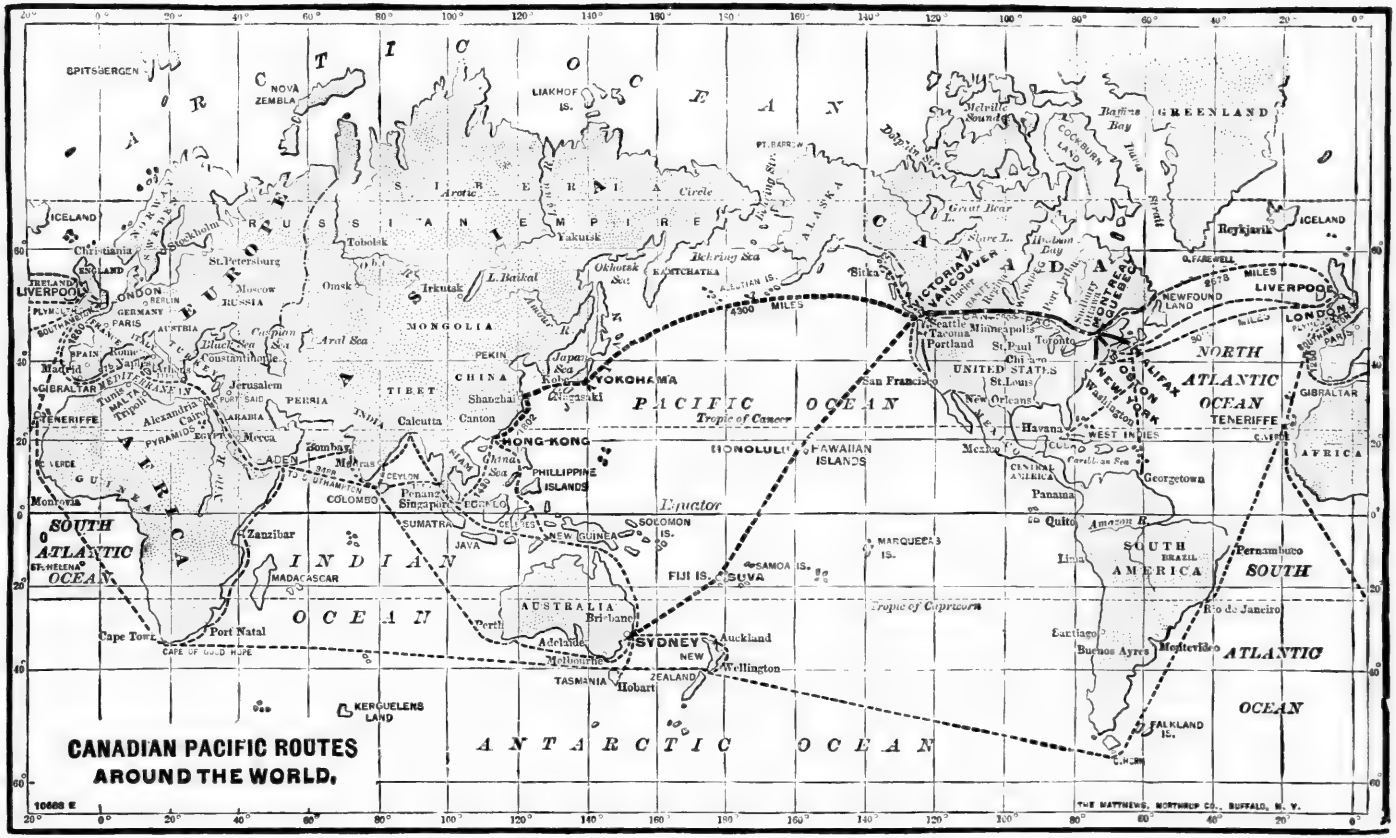
† Rebate of royalty on timber exported, $3,051.40.

Strength of British Columbia Timber.

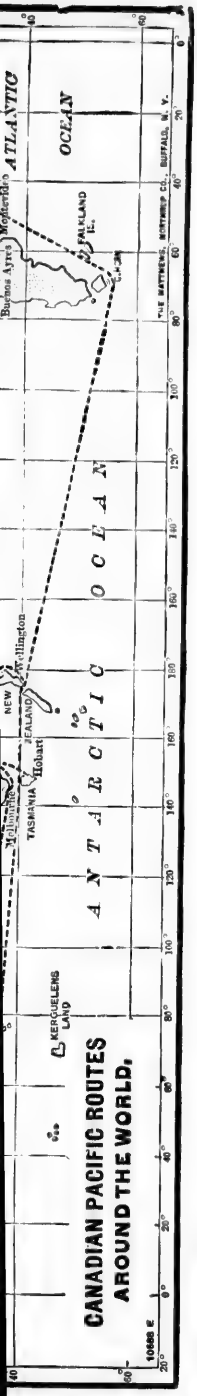
Shewing the weights, specific gravities, deflections, breaking and crushing loads of some of the British Columbia Woods. The pieces tested for transverse strength were one inch square, with a span of one foot, supported at both ends and loaded at the centre. The pieces tested for crushing were rectangular, and twice as long as they were thick. All the pieces were fair average specimens of timber, partly seasoned, but free from knots and flaws. The results obtained from exceptionally good or bad specimens are not included in this table.

Description of Timber.			Weight of a cubic foot in lbs.	Specific gravity.	Mean Deflection in Inches										Highest breaking load.	Lowest breaking load.	Mean breaking load.	Mean Crushing Load in lbs. per square inch	
					200 lbs.	250 lbs.	300 lbs.	350 lbs.	400 lbs.	450 lbs.	500 lbs.	550 lbs.	600 lbs.	650 lbs.	lbs.	lbs.	lbs.	End-wise.	Side-wise.
Alder.	(Alnus rubra)	Bongard.	32.16	.5158	.092	...	117	....	.158	2	25		....	....	600	530	567	6500	1500
Arbutus.	(Arbutus Menziesii)	Pursh.	53.29	.8547	....	....	....	....	....	....	....	....	....	....	....	....	....	5900	1600
Birch.	(Betula papyrifera)	Marsh.	37.57	.6025	.05	.087	1	.117	142	....	2	.225	.25	....	660	630	650	7000	1750
Cedar.	(Thuja gigantea)	Nutt	24.95	.4001	.1	.133	.158	.2	.25	....	....	....	....	....	460	450	453	5500	1500
Crab Apple.	(Pirus rivularis)	Dougl.	50.21	.8052	....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Cypress Yellow.	(Chamæcyparis Nutkaensis)	Spach.	31.21	.5005	.05	....	.082	.117	...	.15	.2	....	.25	....	700	680	693	5900	1400
*Fir Red.	(Pseudotsuga Douglasii)	Carriere.	34.	.5453	....	.075	.09	.114	119	....	.181	.2	25	.31	650	600	638	7000	1750
Hemlock.	(Tsuga Martensiana)	Carriere.	31.41	.5037	.09	.1	.14	.18	....	....	....	....	....	....	420	380	400	5000	1000
Maple.	(Acer macrophyllum)	Pursh.	37.41	.5999	.063	....	.113	15	.2	....	.27	....	....	....	610	550	580	7000	1500
Oak.	(Quercus Garryana)	Dougl.	51.73	.8296	.06	.16	.229	.312	.344	.354	458	....	....	....	550	550	550	6500	2500
Pine, White.	(Pinus monticola)	Dougl.	27.79	.4457	.1	.125	.15	.2	25	....	....	....	....	....	500	400	473	5500	1000
Spruce.	(Picea Sitchensis)	Carriere.	25.88	.4150	1	....	15	2	3	....	....	....	....	....	440	420	427	5000	1000
White Thorn.	(Cratægus Douglasii)	Lindl.	51.04	.8185	....	....	....	....	....	....	....	....	....	....	....	....	....	5300	1600
Yew.	(Taxus Brevifolia)	Nutt.	49.05	.7865	....	....	....	....	....	....	....	....	....	....	....	....	....	5906	2400

*Now frequently known as Abies D.



CANADIAN PACIFIC ROUTES AROUND THE WORLD.



VANCOUVER POST OFFICE.

EXTRACTS FROM REPORT OF POSTMASTER-GENERAL

For year ending 30th June, 1895.

Gross Postal Revenue.	No. of Money Orders Issued.	Amount.	Amount of Money Orders Paid.
$29,375.55	10,868	$147,483.60	$125,791.93

Mail matter passing between Vancouver, B.C., and China and Japan:

	Letters.	Newspapers.	Miscellaneous.	Parcels
Yokohama.....	95,390	43,410	30,087	336
Hong Kong....	53,949	14,149	11,382	...
Shanghai.......	19,268	7,744	3,294	...
Tokio..........	10,827	12,137	15,774	...
Amoy..........	190	39	511	...
Way letters....	351	9	1	...
Totals 1895.	179,993	77,488	61,049	336
Totals 1894.	163,314	50,890	43,178	252
Increase...	16,679	26,598	17,871	84

NOTE.—In addition to above, through bags received from the places designated were forwarded to destination as follows: Yokohama, 1,123; Hong Kong, 160; Shanghai, 156; Tokio, 499; Kobe, 127; Hakodati, 53; Nagasaki, 70.

Mail matter passing between Vancouver, B.C., and the following postoffices in Australasia and Sandwich Islands:

	Letters.	Newspapers.	Books and Samples.
Sydney...........	56,219	91,217	69,021
Melbourne........	32,212	64,526	38,349
Brisbane..........	10,456	34,756	22,483
Honolulu.........	31,747	53,169	29,857
Adelaide.........	7,702	33,707	14,665
New Zealand.....	8,763	33,770	32,196
Suva and Fiji.....	1,152	2,083	335
Auckland.........	298	257	10
Tasmania.........	131	40	......
Way mail........	49	......	......
Totals 1895...	148,729	313,525	206,916
Totals 1894...	125,675	224,526	92,851
Increase.....	23,054	88,999	114,065

BRITISH COLUMBIA SALMON FISHERIES.

Season, 1895.

The result of the past season's salmon fishing has, on the whole, been satisfactory, so far as quantity is concerned.

Four new canneries were built on Fraser River, one on Rivers' Inlet, one on Skeena River, and one on the West Coast, while one was destroyed by fire on Skeena and three on Fraser, only one of which was rebuilt in time for the season's operations.

The season 1895 being the third or "off" year on Fraser River, only a moderate run was expected.

The most noteworthy features were the large increase in price of fish on Fraser River, owing to competition and expectation of a short run, the unusually heavy run which actually took place, and the partial failure of the run on Skeena for the third season in succession.

Fair prices for the pack have ruled throughout, and the market remains in a healthy condition.

It is now generally conceded that the hatchery has largely contributed to the success of the past year.

The total cost of the fishery service of British Columbia amounts to about $6,000, and the cost of operating the hatchery some $3,000 additional, while the first cost of building and fully equipping a hatchery with a capacity of 10,000,000 ova need not exceed $6,000 or $7,000.

As the total value of the salmon pack for the past year amounted to some $3,000,000, of which about $1,800,000 was spent in the Province, it should be the duty of everyone to urge upon the Dominion Government the desirability of largely increasing the number of hatcheries, the cost of operating which is so insignificant in comparison to the benefits likely to result.

From the tables following it will be noted that, including the "Fall" pack, the total pack for the Province during the past season is the largest on record.

British Columbia Salmon Pack, Seasons 1894-95.

FRASER RIVER.

NAME.	PACK IN CASES. 1894.	PACK IN CASES. 1895. Estimated.
Anglo British Columbia Packing Co., L'td Britannia Cannery British Columbia Cannery Wadham's Cannery British America	82,073	86,336
Victoria Canning Co., of B.C., L'td	53,020	40,800
Bon Accord Fishery Co	27,917	19,500
Ewen & Co	25,418	26,500
Canadian Pacific Packing Co.	20,774	19,285
Short & Squair	12,465	12,200
F. Boutillier & Co	....	7,300
Lulu Island Canning Co	15,542	12,605
Terra Nova Canning Co	8,025	7,000
Pacific Coast Packing Co	13,253	11,560
Fisherman's Canning Co	11,110	9,200
Beaver Canning Co	15,710	15,029
Richmond Canning Co	9,615	11,511
British Columbia Canning Co., L'td	7,490	7,000
Malcolm—Windsor Canning Co., L'td	18,429	17,500
Brunswick Canning Co	15,346	12,500
Federation Canning Co., L'td	17,387	15,000
Dinsmore Island Canning Co., L'td	10,393	8,300
Costello & McMorran	....	15,900
Alliance Canning Co	....	4,000
Atlas Canning Co	....	4,775
Add for fall pack (estimated)	....	69,119
	363,967	432,920

NAAS RIVER.

Federation Canning Co., L'td	19,587	......
Naas Harbour Cannery	....	10,541
Mill Bay Cannery	....	10,000
	19,587	20,541

SKEENA RIVER.

Name.	Pack in Cases. 1894.	Pack in Cases. 1895. Estimated.
Anglo British Columbia Packing Co British America Cannery North Pacific Cannery	17,308	20,661
British Columbia Canning Co., L'td	9,279	......
Victoria Canning Co. of B.C., L'td	6,624	7,059
Skeena Packing Co., R. Cunningham & Son	6,988	7,500
Balmoral Canning Co	6,591	9,500
Inverness Canning Co	7,650	8,168
Royal Canadian Packing Co	6,711	7,883
Carlisle Packing & Canning Co., L'td	....	6,928
	61,151	67,699

RIVERS INLET.

Name.	1894.	1895. Estimated.
Victoria Canning Co., of B.C., L'td	12,433	10,320
Anglo British Columbia Packing Co., L'td	....	19,038
British Columbia Canning Co., L'td	26,918	29,207
	39,351	58,565

OTHER NORTHERN POINTS.

Name.	1894.	1895. Estimated.
Alert Bay Canning Co. (Alert Bay)	2,000	6,283
Namu Canning Co., R. Draney (Namu Harb'r.)	....	3,000
Lowe Inlet Packing Co. (Lowe Inlet)	8,315	8,660
Clayoquot Fishing and Trading Co., L'td	....	3,300
	10,315	21,243
Grand Total	494,371	600,968

(N.B.—Four canneries destroyed by fire, 1895.)

THE ANNUAL PACK.

	CASES		CASES		CASES
1876	9,847	1883	196,292	1890	409,464
1877	67,387	1884	141,242	1891	314,893
1878	113 601	1885	108,517	1892	228,470
1879	61,093	1886	161,264	1893	590,229
1880	61,849	1887	204,083	1894	494,371
1881	177 276	1888	181,040	1895	**600,968**
1882	225,061	1889	414,294		

Estimate of Total Salmon Pack of Pacific Coast, 1895.

(FROM COMMERCIAL NEWS, DEC. 17TH.)

Date.	Pack.	Date.	Pack.
1866	4,000	1881	956,375
1867	18,000	1882	1,045,661
1868	23,000	1883	1,106,400
1869	100,000	1884	971,224
1870	150,000	1885	886,495
1871	200,000	1886	909,047
1872	250,000	1887	997,890
1873	250,000	1888	1,142,721
1874	352,500	1889	1,714,981
1875	378,000	1890	1,633,419
1876	493,747	1891	1,576,737
1877	575,687	1892	1,348,797
1878	640,101	1893	1,787,131
1879	598,394	1894	1,884,211
1880	679,500	1895	2,128,369

Salmon Pack, Columbia River, (U.S.A.)

Date.	No. of Cases Packed.	No. of Boats.	Cost of each fish.	Price obtained ⅌ case of 48 ℔s.
			Cents.	Shillings.
1866	4,000	2	15	64
1867	18,000	15	15	52
1868	28,000	25	20	48
1869	100,000	35	20	40
1870	150,000	50	20	36
1871	200,000	75	20	38
1872	250,000	100	22	32
1873	250,000	125	24	28
1874	350,000	250	24	26
1875	375,000	300	24	22½
1876	450,000	400	24	18
1877	400,000	450	24	21
1878	400,000	550	24	20
1879	480,000	750	48	20
1880	530,000	900	48	20
1881	555,000	1,200	60	20
1882	550,000	1,500	76	20
1883	629,000	1,700	90	20
1884	600,000	1,800	90	20
1885	550,000	1,800	90	20
1886	448,000	1,900	100	20
1887	356,000	1,900	90	22
1888	366,000	1,900	90	24
1889	318,000	2,000	90	22
1890	436,000	2,000	100	20
1891	390,183	"	125	21
1892	481,900	"	125	21/6
1893	375,700	"	125	21/6
1894	511,000	"	125	21
1895	632,900	"	125	21/6

Estimate of Total Salmon Pack for the Pacific Coast, for 1895.

	CASES.
British Columbia	600,968
Columbia River (Spring)	505,400
" " (Fall)	127,500
Rogue River	14,000
Coast, Rivers and Bays (Fall)	52,000
Gray's Harbour and Shoal water (Fall)	34,000
Puget Sound (Fall, excepting 10,500 cases)	105,500
Point Roberts	52,000
Alaska	637,000
Total for Pacific Coast, 1895	2,128,368

N.B.—Although the largest pack in the history of the industry, the output has been so well handled, that most of it has been marketed at good prices, and stocks remaining on hand on the Coast are not more than sufficient for requirements,

Gross Estimate of British Columbia Fisheries, Season, 1895.

Total quantity of Salmon exported fresh in ice	1,795,892 lbs.
" " " salted, barrels	3,148 brls.
" " Sturgeon (dressed)	375,000 lbs.
" " Halibut (fresh)	2,536,700 lbs.
Value of Caviar and Isinglas from Sturgeon	$ 2,250 00
" Fish oils manufactured	135,000 00
Total estimated value of fish and their products, including estimated home consumption, caught and handled during Season 1895	$4,426,000 00

Fishing Boats Licensed since 1890.

Date.	Average cost of each fish in Fraser River.	Fishing Boats Fraser River and South.	Fishing Boats North of Fraser River.	Total Boats.
1890	9c.	751	720	1,471
1891	10c.	783	695	1,478
1892	15c.	760	725	1,485
1893	10c.	1,465	822	2,287
1894	10c.	1,610	789	2,399
1895	20c.	1,770	830	2,600

Fish Breeding.

INTERESTING FACTS AND FIGURES.

The following appeared in the Vancouver *News-Advertiser* of February 12th, 1896:

Fourteen years ago Mr. Samuel Wilmot, who only recently retired from the office of Superintendent-General of Fish Culture for the Dominion of Canada, in the course of a lengthy letter in reply to a request made by Messrs. B. Haigh & Sons, New Westminster, for information concerning the artificial propagation of salmon, made the statement that "our Dominion Government is quite in advance of almost any other on this Continent or in the Old World with regard to the artificial propagation of fish. * * * Whilst France, Germany, England and the United States are being heralded by their institutions and Government organs as doing wonders in fish culture, Canada has been quietly, yet surely, outdoing them by all odds." Although a like distinction cannot now be claimed for the Dominion the assertion may be fearlessly made that Canada is at any rate doing to-day a great deal in the direction of meriting honourable estimation, if not of winning like pre-eminence. Everybody who takes the slightest interest in the fisheries of the Dominion is doubtless aware that the artificial propagation of fish continues under the care and at the expense of the Dominion Government, and that young fish are turned out at the proper times, but there knowledge stops with very many. Even to numbers whose information upon this subject is far from being so superficial, it may come as a surprise to be told that the total number of fry distributed from the Dominion Hatcheries from the year 1868 to the end of 1894, was 1,539,727,700, in the following proportions:

Atlantic and Pacific salmon, salmon-trout of the Great Lakes, and speckled trout of the streams	275,176,300
White fish of the Great Lake region	670,230,000
Pickerel or dore	210,221,400
Lobster	384,100,000
	1,539,727,700

But to grasp the increasing importance of this subject it is necessary to bear in mind the development of this endeavor to maintain an adequate supply of food-fish in Dominion waters. Let us take the figures for five years. The distribution of fry in the several years, 1890-4, was as under :

1890	90,213,000
1891	115,771,800
1892	135,959,500
1893	258,314,000
1894	254,919,000

These figures exhibit an enormous increase, which there is good reason to suppose will be well maintained.

But as the intention of the writer is to notice the progress being made in this connection in British Columbia in particular rather than in the Dominion in general—the above official statistics having been quoted merely for the purpose of showing the magnitude of the fish-breeding operations of the Department of Fisheries, as a whole—attention will now be directed to Provincial results.

The first batch of fry distributed from the Fraser River Hatchery was liberated in 1885. The official figures for that year and those succeeding it are as follows:—

1885	1,800,000
1886	2,625,000
1887	4,414,000
1888	5,807,000
1889	4,419,000
1890	6,640,000
1891	3,603,800
1892	6,000,000
1893	5,764,000
1894	7,800,000
1895	6,390,000
Total fry distributed	55,262,800

It may be remarked that during the four years, 1885-8, about half the young fish put out were spring salmon, and that in 1894 1,500,000 white fish were included in the unusually large total of that year. All the rest of the fry were salmon of the sockeye variety.

The Fraser River Hatchery is at Bon Accord, within half a dozen miles of New Westminster. It is advantageously placed in one respect, viz., that an abundant supply of running water is obtainable from a permanent neighbouring stream. In two other important respects, however, its position is not a good one. First, all the fish eggs have to be brought a comparatively long distance down from where the ova is taken from the salmon; and next, loss of young fish occurs in conveying them from the hatchery to the distant places at which they are set free. In this latter connection, Inspector McNab, the officer in charge of the B.C. Hatchery, in his report for 1893 stated that, "More than half of the fry from the Fraser River Hatchery have always been planted in Harrison River, which is the most suitable place available, but at the season when it is necessary to put out the young fish the water is so low in the river that it is impossible to get up the rapids on the Harrison with the scows, and although there is not a question in regard to the great benefit which has resulted from planting the fry where, of necessity, it has to be done, still many persons believe that the benefits would be greater if the hatchery were situated above the rapids, in which case both the Harrison Lake and River and their numerous affluents would be more accessible." Further on the following statements occurred :—

"The success of a hatchery, to be considered as a factor in keeping up a supply of fish, is not to be measured by the number of ova laid down or successfully hatched, but it is from the number of fry which may be successfully planted in suitable places for food and shelter and where there is an absence of predatory fishes. The facilities of appliances for planting the young fish are also very important considerations in connection with the prosperity of a hatchery."

Again, in his report for 1894, the same officer remarked:—

"Owing to the hatchery being situated more than seventy miles from where most of the fry are liberated, necessitating their being towed by steamboats, in scows, against the current of the Fraser River, a distance of sixty miles, to the mouth of the Harrison River, and then by row-boats for several miles up the latter river, considerable loss is met with; more, no doubt, than would be the case were the hatchery situated above the rapids of the Harrison River."

Thus far, though, the Inspector's repeated recommendation that a new and more suitably located hatchery be provided, has not been acted upon, but it is not unlikely that increasing unfitness, by reason of decay and a too restricted capacity, will ere long compel either the extensive repair and enlargement of the existing hatchery, or, what is evidently a far more desirable alternative, the construction, in a more favorable position, of a new hatchery more adequate, both as regards accommodation and equipment, to the growing needs of one of the most important industries contributing to the prosperity of this section of the Dominion.

Although the object of this contribution is not so much to deal with details of fish breeding operations as to direct attention to the extent to which they have been, and continue to be, carried on, and to the results already achieved, a brief description of the procedure followed will no doubt prove of interest to those not acquainted with it. To quote again from the Inspector's 1894 report, he stated:

"On 21st September I sent men with the necessary materials to Morris Creek, Harrison River, to build a trap and make the necessary preparations for capturing parent salmon and collecting ova. On 2nd October, the first lot of ova, 1,344,000, was received at the hatchery * * * and on the 25th the last lot of 944,000; making a total of 6,752,000 ova, all of the sockeye variety. The parent fish were all captured in a trap constructed of pickets. The trap was 12 feet square, having a V-shaped entrance. Adjoining the upper end of this trap a pound or trap of similar size and construction was built. The salmon entered the trap several days before their ova was fully ripened, and in order to give them more room, and also to facilitate handling them for stripping, the males were lifted in dip-nets and transferred to the pound. Gill-nets were used formerly for capturing the parent fish, but I have dispensed with them altogether, and in my opinion the ova is in better condition and hatches with a smaller percentage of loss when obtained from fish which have entered the trap of their own accord; and, too, there is no loss of parent fish, which is unavoidable when they are netted in gill or drift nets. The number of female salmon taken was 2,200, and they gave an average of 3,500 ova each. For fertilising these ova it took from 1,200 to 1,400 males. The parent fish—male and female—when liberated appeared to be but little affected by the operation and confinement in the pounds."

After having been conveyed to the hatchery on trays, the fertilized ova is placed in oblong open-wire baskets about 15 inches long, 9 inches broad, and 4 or 5 deep. These are placed in wooden troughs set about 3 feet above the floor of the building, that at Bon Accord being a wooden construction 110 feet by 40. Nearly the whole of the ground floor is occupied by troughs placed across the building in parallel groups of five each, with room for the attendant to pass between the respective groups. The troughs, which number between 70 and 80, are each about 30 feet long, 10 inches wide, and 6 inches deep. A capacious flume runs the whole length of the building, and supplies each trough with a constant stream of water, the flow of which is regulated as required. The water passes through the baskets of ova, the fertilized eggs having the appearance of so many redish coloured small peas of almost uniform size. Within three months the young fish begin to hatch out. The present season's ova was placed in the hatchery between the 3rd and 15th of October last, both dates inclusive, and the little fish commenced to hatch about

Christmas time, and have continued to appear ever since, with a considerable number yet to come out.

Myriads of little silver-eyed red fish are now to be seen at the bottom of the clear water passing through the troughs. Here they will remain until about the middle of March, or a week or two earlier or later, according to the favourableness or otherwise of the weather, when they will be turned adrift to do for themselves. By that time they will be from an inch to an inch and a quarter in length, and will then require more food than the water flowing in and out of the troughs could supply to such large numbers. Artificial feeding is not resorted to in the hatchery. Here control over the young fish is lost, and their acquaintance is not again made until a few years later—let us believe—those that have not previously lost the number of their mess are taken by the fishermen, or if they succeed in running the trap and net blockade of the lower river and adjacent waters, until they crowd the inland streams to continue the work of reproduction.

And what is the result of all this effort? Let the Inspector's 1893 report again speak for itself:

"Numerous letters have been received from and visits have been made by gentlemen interested in the salmon fishing of Alaska and the Columbia River in the United States enquiring about the capacity and the general working of the Fraser River Hatchery, all of whom expressed the opinion that to the successful operations thereat is to be attributed the unusually successful catches of salmon on the Fraser River during the present and past seasons."

Add to this the unexpectedly large run of 1895, which was confidently looked forward to as almost certain to prove an "off" year, and apparent confirmation of this opinion is found.

Time and space will not now permit of much being written of the 4,500,000 whitefish ova recently received from Selkirk and now in the hatchery. This ova is somewhat differently treated to that of the salmon, but an equally successful result is looked for.

In addition to an expression of thanks to Inspector McNab for his courtesy in facilitating the recently paid visit to the hatchery, this contribution—which has far outrun the limits intended for it—will be concluded with the intimation that it is anticipated between 6,300,000 and 6,400,000 salmon fry will be liberated from the Fraser River Hatchery during March or April next.

PERCY VERENS.

SHIPPING.

Vancouver possesses a magnificent and perfectly sheltered harbour, accessible for vessels of any draught, and with adequate wharfage facilities, the charges for wharfage being levied on the cargo and paid by the receivers. Although not yet possessing a dry dock, there is an excellent beach on the north side of the harbour, where iron vessels can be safely beached for the purpose of being scraped and painted, the rise and fall of the tide (13 to 15 ft.) being sufficient to permit this being done in a satisfactory manner. Shipmasters visiting the port all concur in praising the natural advantage which enables them to rid their vessels of marine growths in such an inexpensive manner and with perfect safety.

For inwards business there are general cargoes from Europe, and cargoes of raw sugar from Java for the Refinery. For outwards business a charter for lumber can nearly always be obtained, and in the season (August to December) canned salmon for the United Kingdom.

The " Empress " line of mail steamers, belonging to the Canadian Pacific Railway, leave for Japan and China once a month during the winter, and once every twenty days in the summer (calling off Victoria, Vancouver Island, for local mail and passengers).

The Canadian-Australian Mail Line leaves for Sydney once a month, touching at Victoria, Honolulu and the Fiji Islands.

The Pacific Coast SS. Company's steamers ply regularly between Vancouver and San Francisco every five days, calling also at Victoria. There is a daily service with Victoria and with Nanaimo, the steamers connecting with the incoming and outgoing transcontinental express trains of the Canadian Pacific Railway.

Provisions and supplies of all kinds are plentiful and at moderate prices, imported stores being allowed to be supplied from bonded warehouses.

Annexed will be found a list of the usual disbursement expenses, together with copies of actual disbursement accounts :

Ordinary Expenses of a Vessel at Vancouver.

Hospital dues per register ton		$ 02
Health Inspector's fee		4 00
Harbour dues		5 00
Bill of health, outwards		1 00
Pilotage, per foot (each way)		2 00
Pilotage, per foot (steamers)		1 50
Port agency (according to size)	$25 00 to	100 00
Discharge of ballast (usually done by ship's crew) or per ton	10 00 to	25 00
Harbour towage	10 00 to	20 00
Stevedoring—		
General cargo or salmon, per ton		45
Sugar, per ton		27½
Lumber and timber, per M ft. according to the style of cargo and facilities of the ship	80 to	1 00
Watering	15 00 to	20 00

Rates of Towage.

PILOTAGE DISTRICT OF YALE AND NEW WESTMINSTER.

The ports of the Pilotage District of Yale and New Westminster shall be as follows:

Port of Vancouver.

Port of New Westminster.

Port of Yale and the several landings on the Fraser River.

(1) The limit of the Port of Vancouver shall be inside a line drawn from Point Atkinson to the red buoy on Spanish Bank.

(2) The limit of the Port of New Westminster shall be inside a line drawn between the outer buoys and north and south sand heads, at entrance of Fraser River.

DUES.

For vessels entering or clearing from the Port of Vancouver the rates of pilotage shall be as follows:

Vessels under sail	$4 00	per foot
" in tow of a steamer	2 00	"
" under steam	1 50	"

The pilotage from Cape Flattery or Royal Roads to a line drawn from Point Atkinson to the red buoy on Spanish Bank and *vice versa* is not compulsory, but if the services of a pilot are required, he shall be paid the following rates, viz.:

From Cape Flattery	$6 00	per foot
" Callum Bay	5 00	"
" Beachy Head	4 00	"
" Race Rocks or Royal Roads	3 00	"

And for vessels under steam or in tow of a steamer the following rates shall be paid :

From Cape Flattery	$3 00	per foot
" Callum Bay	2 50	"
" Beachy Head	2 00	"
" Race Rocks or Royal Roads, vessels under steam	2 00	"
" Race Rocks or Royal Roads, vessels in tow of a steamer	1 50	"

NEW WESTMINSTER.

From the lighthouse on Fraser sand heads to New Westminster :

For vessels under sail	$4 00	per foot
" " in tow of a steamer	2 00	"
" " under steam	1 50	"

From the lighthouse to Cape Flattery or Royal Roads and *vice versa* the pilotage is not compulsory, but if the services of a pilot are required he shall be paid the following rates :

For vessels under sail :

From Cape Flattery	$6 00	per foot
" Callum Bay	5 00	"
" Beachy Head	4 00	"
" Race Rocks or Royal Roads	3 00	"

For vessels under steam or in tow of a steamer, the following rates shall be paid :

From Cape Flattery	$3 00	per foot
" Callum Bay	2 50	"
" Beachy Head	2 00	"
" Race Rocks or Royal Roads, vessels under steam	1 00	"
" Race Rocks or Royal Roads, vessels in tow of a steamer	1 50	"

Any fraction of a foot not exceeding six inches shall be paid for as half a foot, and any fraction of a foot exceeding six inches shall be paid for as a foot.

The following are copies of actual accounts:

Disbursement account of British ship .... loading lumber at Vancouver; 2,108 tons register; cargo, 1,974,050.

Hospital dues, 2c. per ton	$ 42 16	
Harbour dues	5 00	
Customs fees, discharging and shipping crews, etc	13 50	
Survey	25 00	
Pilotage inwards and outwards	103 00	
Stevedores' bill	2,135 15	
Towage	750 00	
Shipping crew and advances	520 00	
Watering ship	20 00	
Butcher's account	137 15	
Lumber and wood	79 78	
Stores	50 00	
Telegrams	8 54	
Cash to captain	95 52	
		$3,984 80
Commission on charter	$ 914 02	
Extra insurance on deck load	19 19	
Commission and insurance on advances, £158	37 48	
		970 69
		$4,955 49

Disbursement account of Norwegian ship .... 1,476 tons register; loading lumber at Vancouver, 1895; cargo, 1,177,408.

Cash advanced captain	$ 695 00	
Hospital dues, 2c. per ton..........	29 06	
Harbour dues....	5 00	
Quarantine inspection	4 00	
Norwegian consulate	47 40	
Stevedores' bill	1,048 90	
Docking and towage into stream....	15 00	
Telegrams and cables	4 30	
Stores	441 80	
Lumber and spars....	53 55	
Port agency	25 00	
Postage stamps	3 00	
Towage	450 00	
		$2,822 01
Extra insurance on deck load.......	$ 86 05	
Commission on charter.......... .	1,142 40	
		1,228 45
		$4,050 46

Lumber Vessel's Expense Accounts.

Pro forma disbursement accounts of a ship of 1,500 tons register, inwards with ballast, outwards with lumber, at Vancouver and Puget Sound, compared.

	Puget Sound (say Pt. Blakeley).	Vancv'r.
To Customs fees	$ 6 80	$ 1 00
Harbour dues	....	5 00
British Consular fees	15 00	....
Tonnage dues	90 00	30 00
Health Officer's inspection	....	4 00
Discharging part ballast, say 300 tons	120 00	75 00
Docking ship from the ballast ground	20 00	20 00
Stowing and shipping cargo, say 1,200,000	1,380 00	1,200 00
Surveyor's fee	20 00	25 00
Towage	650 00	650 00
Water	20 00	20 00
Stores, say	400 00	500 00
Sundries, say	100 00	100 00
Sailors' advances, say	300 00	300 00
Pilotage inwards, say 14 ft. $2	....	28 00
Pilotage outwards, say 21 ft. $2	....	42 00
Port agency	25 00	25 00
Telegrams, postage, etc	25 00	25 00
	$3,171 80	$3,050·00

Commission on charter and advances (if any) according to terms of charter party.

NOTE—Port Blakely has been taken as a fair average for Puget Sound. At other mills the only difference would be in tonnage rates, which to some mills nearer sea are $50 less, and those further $50 more.

PILOTAGE.

The question of pilotage dues having engaged the attention of this Board, the matter was referred to C. Gardiner Johnson, Esq., for investigation, and his report, made after due investigation and correspondence with the proper authorities, was, by resolution, accepted in full meeting, viz.:—

VANCOUVER, May 28th, 1895.

Comparative statement of what a vessel, say 1,200 tons burden, and drawing 20 feet of water, would have to pay in and out of the ports of New York, San Francisco, Portland, Oregon, and Vancouver, B.C.:

1st. SAN FRANCISCO, CAL.—A vessel entering that port would have to pay :—

On 20 feet in, at $5.00 per foot	$100 00
On 20 feet out, at $5.00 per foot	100 00
On 1,200 tons reg., at 4-100 per ton in	48 00
On 1,200 tons reg., at 4-100 per ton out	48 00
	$296 00

If the services of a Pilot were declined, half the above rate would be paid, *i.e.*, $148.00.

2nd. PORTLAND, OREGON—A vessel entering that port would have to pay :—

BAR PILOTAGE.	
On 20 feet in, at $5.00 per foot	$100 00
On 20 feet out, at $5.00 per foot	100 00
On 1,200 reg., at 2-100 per ton in	24 00
On 1,200 reg., at 2-100 per ton out	24 00
RIVER PILOTAGE.	
On 20 feet in, at $2.00 per foot	40 00
On 20 feet out, at $2.00 per foot	40 00
On 1,200 tons reg., at 2-100 per ton in	24 00
On 1,200 tons reg., at 2-100 per ton out	24 00
	$376 00

So that a vessel of 1,200 tons from sea to Portland would pay the sum of $376.00.

A captain has the right to pilot his ship over the bar to Astoria if he likes, but must pay the full pilotage for that privilege.

3rd. NEW YORK—This information has been kindly supplied me by the Collector of Customs of New York to whom I wrote since our last regular meeting. A vessel entering that port would pay :—

On 20 feet in, at $4.13	$ 82 60
On 20 feet out, at $3.80	61 60
	$144 20

The New York pilotage is on a sliding scale ; for instance, a vessel drawing 21 feet would pay more in proportion than a vessel drawing 20 feet.

We have now the three respective ports to guide us. Let us see what a vessel of the same burden and draught would pay entering and clearing from Vancouver. A vessel entering that port would pay :—

On 20 feet in, at $2.00	$ 40 00
On 20 feet out, at $2.00	40 00
	$ 80 00

As I have only dealt with compulsory Pilotage, I will consider that no Pilot was on the vessel entering San Francisco ; but there is no use looking at the matter this way " with Portland Bar Pilotage," for, as I have stated, the vessel must pay the same over the bar with or without a Pilot.

Figures, therefore, stand thus :—

San Francisco, without a Pilot, in and out	$148 00
Portland, from the sea, in and out	376 00
New York, in and out	144 20
Vancouver, B.C., in and out	80 00

I do not think after these figures are looked into—and I have used every endeavor to be correct—there should be any just cause for complaint.

C. GARDINER JOHNSON,
Secy. Yale and N. West. Pilotage Authority.

CUSTOMS RETURNS.

PORT OF VANCOUVER.

Statement showing number of vessels entered inwards from sea and outwards for sea during the twelve months ending 31st December, 1895.

INWARDS.	NO.	TONS REGISTER.	TONS WEIGHT.	TONS. MEASUREMENT.
British	42	88,296	26,935	49,345
Canadian	27	3,489	389	324
Foreign	240	223,760	25,675	26,559
Total	309	315,545	52,999	76,228

OUTWARDS.	NO.	TONS REGISTER.	TONS WEIGHT.	TONS MEASUREMENT.
British	40	88,042	51,157	62,418
Canadian	24	2,895	2,286	2,823
Foreign	239	221,833	67,867	82,196
Total	303	312,770	121,310	147,437

COASTWISE.	NO.	TONS REGISTER.
Reported in	2,056	541,876

J. M. BOWELL, *Collector.*

PORT OF NEW WESTMINSTER.

Vessels entered and cleared for the year ending December 31st, 1895:

INWARDS.	NO.	TONS REGISTER.
Foreign	83	18,743
Coastwise	546	119,100
Total	629	137,843

OUTWARDS.	NO.	TONS REGISTER.
Foreign	82	17,650
Coastwise	552	193,200
Total	634	210,850

J. M. CLUTE, *Collector.*

VANCOUVER CUSTOM HOUSE.

Comparative Statement for 1894-1895:

IMPORTS.

Quarters ending	March.	June.	Sept.	Dec.	Totals.
1894—Dutiable	$160,304	$218,501	$199,223	$182,733	$760,761
1895— "	126,853	204,899	249,471	253,490	834,713
1894—Free	221,210	172,951	250,833	34,789	679,783
1895— "	36,167	144,065	44,024	38,698	262,954

	1894.	1895.	Decrease.
Total imports	$1,440,544	$1,097,667	$342,877

REVENUE.

1894—Duties	$51,615 68	$68,636 6	$65,594 02	$60,066 01	$245,911 87
1895— "	47,047 94	63,610 30	66,507 13	77,143 27	254,309 66
1894—Other rev.	9,441 68	17,763 43	5,271 90	8,052 70	40,529 71
1895— "	7,604 52	17,209 82	17,737 49	8,942 16	51,493 94

	1894.	1895.	Increase.
Total revenue	$286,441 58	$305,803 63	$19,362 05

EXPORTS.

	1894.	1895.
Products of the mines	$ 16,758	$ 28,753
Fisheries	282,425	259,172
Forest	336,994	455,956
Animals and their produce	25,846	53,269
Agricultural produce	5,847	12,907
Manufactures	44,309	58,934
Bullion	17,651	13,490
Sundries	1,345	......
Totals	$731,175	$882,481
Increase		$151,306

TOTAL REVENUE.

	1894.	1895.	Increase.
Customs	$286,441	$305,803	$19,362
Inland	95,258	111,504	16,246
Totals	$381,699	$417,307	$35,608

Above figures by the courtesy of J. M. Bowell, Esq.

Comparative Statement of Cargoes handled at the Ports of Vancouver and Victoria, British Columbia,

For the year ending 30th June, 1895.

(From the Official Returns.)

OUTWARDS.

PORT OF VANCOUVER (Burrard Inlet).

Vessels entered outwards (for Sea), with Cargo.

	Number.	Tons Reg.	Quantity of Freight.	
			Tons Weight	Tons Measure.
British	42	93,655	64,037	76,928
Canadian	2	52	134	233
Foreign	163	192,780	46,835	56,702
Total	207	286,487	111,006	133,863
Average Cargo per Vessel			536.20	646.68

PORT OF VICTORIA (Vancouver Island).

	Number.	Tons Reg.	Quantity of Freight.	
			Tons Weight.	Tons Measure.
British	25	46,278	8,232	1,104
Canadian	3	338	123	......
*Foreign	705	491,106	20,101	2,840
Total	733	537,722	28,456	3,944
Average Cargo per Vessel			38.82	5,38

*Include daily ferry services to and from Puget Sound ports.

INWARDS.

PORT OF VANCOUVER (Burrard Inlet).

Vessels entered inwards (from Sea) with Cargo.

	Number.	Tons Reg.	Quatity of Freight.	
			Tons Weight.	Tons Measure.
British.............	35	82,061	32,219	53,867
Canadian	11	412	1,062	697
Foreign............	154	180,224	28,223	33,949
Total........	200	262,697	61,504	88,513
Average Cargo per Vessel...........			307.52	442.56

PORT OF VICTORIA (Vancouver Island).

	Number.	Tons Reg.	Quantity of Freight.	
			Tons Weight.	Tons Measure.
British...........	35	62,663	13,760	2,888
Canadian	85	5,095	1,880	11
*Foreign...........	914	537,547	22,271	8,066
Total........	1,034	605,305	37,911	10,965
Average Cargo per Vessel..........			36.66	10.60

* Include daily ferry services to and from Puget Sound ports.

Summary of Cargoes of Sea-going Vessels for the Year ending 30th June, 1895.

	Tons Weight.		Tons Measure.	
PORT OF VANCOUVER:				
Outwards	111,006		133,863	
Inwards	61,504		88,513	
Total		172,510		222,376
PORT OF VICTORIA:				
Outwards	28,456		3,944	
Inwards.	37,911		10,965	
Total.		66,367		14,909

Imports into the Province of British Columbia for 24 Years Ending 30th June, 1895.

	Value of Total Imports.	GOODS ENTERED FOR HOME CONSUMPTION.			
		Dutiable Goods.	Free Goods.	Total.	Duty Collected.
To 30th June, 1872	$1,790,352	$1,600,361	$ 166,707	$1,767,068	$ 342,100 48
From Canada	22,215	....	22,215	22,215	
To 30th June, 1873	2,191,011	1,569,112	507,364	2,076,476	302,147 65
From Canada	75,604	....	75,604	75,604	
To 30th June, 1874	2,085.560	1,676.792	371.544	2,048,336	336,494 47
From Canada	66,104	....	66,104	66,104	
To 30th June, 1875	2,543,552	1,924,482	566,111	2,490.593	413,921 50
From Canada	117,054	....	117,054	117,054	
To 30th June, 1876	2,997,597	2,237,072	707,906	2.944,978	488,384 52
From Canada	129,735	....	129,735	129,735	
To 30th June, 1877	2,220,968	1,820,391	346,318	2,166,709	403,520 21
From Canada	163,142	....	163,142	163,142	
To 30th June, 1878	2,244,503	1,905,201	367,926	2,273.127	426,125 14
From Canada	144,754	....	144,754	144,754	
To 30th June, 1879	2,440,781	1,997,125	320.326	2,317,454	484,704 04
From Canada	184,951	....	184,951	184,951	
To 30th June, 1880	1,689,394	16,14,165	122,451	2,457.116	450,175 43
From Canada	208,072	....	208,072	208,072	
To 30th June, 1881	2,489,643	2,214,153	242,963	1,736,616	589,403 62
From Canada	387,111	....	387,111	387,111	
To 30th June, 1882	2,899,223	2,472,174	404,287	2,875,461	678,104 53
From Canada	449,768	....	449,768	449,768	
To 30th June, 1883	3,937,536	3,331,023	550,833	3,866,856	907,655 54
From Canada	624.207	....	624,207	624,207	
To 30th June, 1884	4,142,486	3,337,642	702,693	4,040,335	884,076 21
From Canada	789,287	....	789,287	789,287	
To 30th June, 1885	4,089,492	3,458,529	564,923	4,023,452	966,143 64
From Canada	927,054	....	927,054	927,054	
To 30th June, 1886	3,953,299	2,951,379	1,060,347	4,011,726	880,226 65
To 30th June, 1887	3,547,852	3,065,791	560.348	3,626,139	883.421 53
To 30th June, 1888	3,509,951	2,674,941	729,266	3,401,207	861,465 14
To 30th June, 1889	3,763,127	2,002,646	807,140	3,809,786	974,675 69
To 30th June, 1890	4,379,272	3,357,111	1,030,375	4.287,486	1,075.215 20
To 30th June, 1891	5,478,883	4,261,207	1,074,983	5,336,190	1,346,059 42
To 30th June, 1892	6,495,589	4,423,414	1,803.005	6,226,419	1,412,878 00
To 30th June, 1893	3,934,066	3,662,673	1,255,495	4,918,168	1,367,250 32
To 30th June, 1894	5,320,615	3,582.333	1,738,282	5,336,961	1,308,631 23
To 30th June, 1895	4,403,976	3.131,490	1,236,935	4,368,425	1,137,727 49

Exports, the Produce of Canada, from the Province of British Columbia, for 24 Years Ending June 30th, 1895.

Year.	The Mine.	Fisheries.	Forest.	Animals and their Produce.	Agric'l. Products.	Miscel-laneous.	Total.
1872	$1,389,585	$ 37,707	$214,377	$214,700	$ 142	$ 1,540	$1,858,050
1873	1,224,362	43,361	211,026	259,292	2,885	1,197	1,742,123
1874	1,351,145	114,118	260,116	320,625	5,296	443	2,051,743
1875	1,929,294	133,986	292,468	411,810	9,727	....	2,777,285
1876	2,032,139	71,338	273,430	329,027	3,080	68	2,709,082
1877	1,708,848	105,603	287,042	230,893	3,083	1.500	2,346,969
1878	1,759,171	423,840	327,360	257,314	462	....	2,768,147
1879	1,530,812	633,493	273,366	268,671	2,505	57	2,708,848
1880	1,664,626	317,410	258,804	339,218	3,843	100	2,584,001
1881	1,317,079	400,984	172,647	350,474	248	22	2,231,554
1882	1,437,072	976,903	362,875	300,429	946	2,616	3,080,841
1883	1,309,646	1,333,385	407,624	287.394	6,791	443	3,345,263
1884	1,441,052	899,371	458,365	271,796	1,745	1,413	3,100,404
1885	1,759.512	727,672	262,071	414,364	2,324	5,948	3,172,391
1886	1,720,335	643,052	194,488	329,248	1,907	2,811	2,891,811
1887	1,832,827	910,559	235,913	380,126	10,265	1,911	3,371,601
1888	1,889,805	1,164,019	441,957	318,839	27,631	85,826	3,928,077
1889	2,377,052	993,623	449,026	397,685	14,831	102,089	4,334,306
1890	2,375,770	2,374,717	325,881	346,159	9,823	113,271	5,545,621
1891	2.930,229	2,274,686	374,996	294,646	5,017	20,434	6,257,158
1892	2,979,470	2,351,083	425,278	390,854	25,018	31,976	6,574,989
1893	2,898,947	1,501,831	454,994	310,621	30,173	446,231	5,642,797
1894	3,521,543	3,541,305	411,623	149,269	23,323	196,895	7,843,958
1895	4,615,452	3,264,461	.....	457,373	21,774	754,998	9,114.058

Trade and Navigation Returns, 1895—Corrected.

PROVINCE OF BRITISH COLUMBIA.

PORTS.	Fiscal Year Ended 30th June, 1893.				Fiscal Year Ended 30th June, 1894.				Fiscal Year Ended 30th June, 1895.			
	Exports.	Imports.	Entered for Consumption.	Duty.	Exports.	Imports.	Entered for Consumption.	Duty.	Exports.	Imports.	Entered for Consumption.	Duty.
	$	$	$	$ cts.	$	$	$	$ cts.	$	$	$	$ cts.
Nanaimo........	2,586,016	177,234	177,211	49,343 15	2,690,945	197,788	202,966	[illegible] 84	2,907,195	219,155	220,297	67,598 22
N. Westminster.	305,890	377,379	383,449	102,178 77	1,548,162	875,627	882,962	168,150 61	2,233,857	634,001	647,710	146,318 02
Vancouver......	695,642	1,180,822	1,116,421	280,323 53	637,574	1,504,485	1,504,675	263,254 97	839,769	1,165,645	1,159,499	236,518 47
Victoria	2,054,105	3,182,733	3,133,228	788,676 07	3,265,883	2,691,717	2,599,756	701,339 71	3,140 277	2,360,810	2,338,516	603.256 42
Total......	5,641,653	4,918,168	4 810,309	1,220,521 52	8,142,564	5,269.617	5,190,359	1,189,414 13	9,121.098	4,379,611	4,366,022	1,053,691 13

CUSTOMS DEPARTMENT, OTTAWA,
January, 24th, 1896.

MINING.

I. CARIBOO.

The Board is indebted to the courtesy of John B. Hobson, Esq., manager of the Horsefly and Cariboo Hydraulic Mines for the following copy of a paper read before the General Mining Association of Quebec, at Montreal, in January, 1895:

THE AURIFEROUS GRAVELS OF BRITISH COLUMBIA.

By John B. Hobson, of California, who appeared in support of the Laws to Regulate Hydraulic Mining in the State of California before the House Committee on Mines and Mining, Washingion, D.C., March 18th, 1892.

The auriferous gravels of British Columbia, like those of Central California, may be divided into two classes: first, the shallow or modern placers; second, deep or ancient river placers. These terms indicate the characteristic difference that exists between the two classes of placers.

SHALLOW OR MODERN PLACERS.

These placers are superficial deposits of auriferous gravel and alluvium, formed by the modern streams that drain an auriferous region, and are designated by river, bar, bench, gulch, creek or ravine diggings, according to their topographical position.

The placers of the modern rivers of California are practically exhausted. Those of British Columbia are not by any means exhaused.

The shallow placers known as bar, creek and gulch diggings, have been, so far as known, extensively worked since the Fraser River and Cariboo gold excitements about 1857.

The most accessible of the above-named placers have been pretty well worked out in the districts I have examined.

But the vast accumulations of auriferous gravel on the benches along the Fraser, Quesnelle, Horsefly and other modern streams examined are practically unexplored. These can be worked by hydraulic process wherever water can be secured and all other necessary conditions are reasonably favourable.

The deep placers of the modern streams, that is to say, the auriferous gravels lying below the water level of the modern streams, have been worked to some extent in the vicinity of Barkerville, but immense areas remain to be explored, and will in all probability be profitably worked in the future by aid of modern appliances.

The deep modern placers can be exploited either by shaft, and worked by what is known in California as the drifting process, or by the hydraulic elevator process. In other words a shaft is sunk to bedrock, and the bottom stratum of auriferous gravel is breasted out, hoisted to the surface, washed in ordinary sluices and the gold recovered.

Wherever an abundant supply of water can be obtained and delivered at the mine under sufficient head or pressure, as it is called by California miners, the auriferous gravels lying below drainage can be successfully and profitably worked by the hydraulic elevator.

THE DEEP PLACERS OF THE ANCIENT RIVERS.

The deep placers of the ancient river system of the tertiary as seen in British Columbia, are similar in character, but so far as I have been able to determine, far more extensive and richer in their gold tenure than those of the most favoured districts in Central California, where gravel deposits which contain from three to five cents per cubic yard in gold are considered rich and yield as profit from twenty to fifty per cent. of the gross output when worked by the hydraulic process.

Water is abundant in all the districts I have examined, and can be brought on to the deposits in shorter canals and at much less expense than is possible in California.

In California there are invested one hundred millions of dollars in hydraulic mining enterprises, and prior to the inhibition of that industry, on account of damage done by debris to agricultural lands and navigable streams, the annual product in gold amounted to about twelve millions of dollars, about one half of which resulted in profits.

The auriferous deposits of California remaining unworked are estimated at 2,108,875,000 cubic yards. The gold tenure of these gravels varies from one to thirty cents per cubic yard, and the total gold content estimated at about $500,000,000.00

I have seen in British Columbia, included in the Yale, Lillooet and Cariboo districts, three times the area of auriferous deposits that are known to exist in the whole of the State of California.

The British Columbia gravels that I have examined, and that may be considered available for hydraulic working, yielded results varying from one cent to $1.50 per cubic yard, and as a whole average richer than any I have seen in California.

In some properties examined, I sampled streaks, some of which were on bedrock and others 150 feet above the bedrock, that yielded prospects varying from $2 to $36 per cubic yard. We have no such rich deposits in California.

The exploitation and equipment of hydraulic mines is expensive, and large sums of money are required to provide water supply and hydraulic plant, to get the mines opened and placed on a paying basis.

For this reason great care should be exercised by those intending to engage in such enterprises. Competent engineers should be employed to investigate the source of water supply, determine the available gradient for sluices, dump for debris and the gold tenure of the gravel. The absence or insufficiency of either of the first three of these conditions means the failure of the enterprise to prove remunerative.

A company of gentlemen in Montreal have undertaken the equipment of two large hydraulic mines in Cariboo, the Horsefly Hydraulic Mine and the Cariboo Hydraulic Mine, which will soon be on a basis for profitable production.

I do not hesitate to predict that the day is not far distant when the gold output from the auriferous placers of British Columbia will not only surprise Canadians, but will astonish the civilized world.

I will refer briefly to some of the principles involved in the working of hydraulic mines, and to the origin of the hydraulic process in California.

The exhaustion of the shallow placers led to the discovery of the deeper deposits of the ancient river system. The shallow placers were, of course, rich like those of Cariboo, and, as they were exhausted, the miners attacked the deeper deposits to work their shallow edges. Only a small supply of water was required, and the great richness of the bedrock stratum and concentrated edges or rims made the work profitable to individual labor, with the easily obtained and limited supply of water; but as the depth of the superincumbent mass of poorer top gravel increased the results decreased, and the individual miner was forced to abandon his effort and depart for shallower and richer fields.

This was the condition of California in 1857. This is the condition of the auriferous regions of British Columbia to-day—the shallow placers exhausted—the deep placers unexplored. Vast areas of the best auriferous earth in the world awaiting the energy of the prospector to explore and locate, and the courage of capital to develop and place on a basis for gold production.

The gravel banks or deposits of debris and alluvium of the ancient rivers are the most favourable form of deposit for the operation of hydraulic mining, owing to the even distribution of the gold throughout the mass of gravel and the great depth of material.

As the early or pioneer miners exhausted the rich shallow places in the ravines and gulches, they turned their attention to the deposits of the ancient rivers, working off their thin edges with the limited supply of water, but sooner or later abandoned the attempt, as the amount of the material which they could remove in a day with a small quantity of water, without pressure, would not pay; they had, however, discovered two important facts, viz: That their want of success was mainly due to the want of a large supply of water delivered under pressure to enable them to remove large quantities of material. As before stated, miners also discovered that as the quantity or volume of water employed was increased, as also the pressure under which it left the delivery pipes, they accomplished better results, and that under favorable circumstances, gravel which contained only a few cents per cubic yard could be made to pay handsomely, and therefore every effort was made to secure these conditions. Out of these efforts has arisen the modern system of hydraulic mining which I will briefly endeavour to explain.

HYDRAULIC MINING.

Hydraulic mining is accomplished by utilizing the power of water, and the gradient afforded by the fall or difference of level between the auriferous deposits and the dumps into which the debris resulting from the mining operations must be deposited.

The power of the water depending on its volume and the head or pressure under which it can be delivered at the working floor of the hydraulic excavation, it is therefore most essential that the water ditch or canal should be at a high elevation above and as near as possible to the deposit of gravel to be mined. The first condition insures a great hydrostatic pressure, and the second a reduction in the length and cost of the sheet iron or steel conveying pipes.

It has been demonstrated that one thousand miner's inches of water can be discharged under a head or pressure of 300 feet through a six-inch nozzle, with a velocity of about 140 feet per second, and in a volume of about 1,650 pounds during the same period of time.

Such a volume of water, in the form of a jet uninterruptedly impinging upon a bank of auriferous earth or gravel, having, as it does, about one-tenth of the velocity of a projected cannon ball, must necessarily do great execution, and produces the caving of an ordinary gravel bank without the aid of explosive blasting.

The greater the gradient given to the conveying or mining sluices, the greater will be the duty of the water employed to remove the auriferous material from the excavation to the dumps.

The separated gold is caught between the riffles placed in the mining sluice bottoms, and held there by the use of mercury until it becomes desirable or necessary to recover it therefrom. When the amalgamated gold is cleaned up from the sluices, it is retorted to distil over and recover the mercury and the remaining gold retort, as it is called, is melted into bars and sent to the mints for coinage.

Gold-saving appliances, called under-currents, are now in general use in California for recovering fine flour gold that could not be recovered in the ordinary riffled sluice.

As it is proposed to remove immense masses or quantities of gravel, only utilizing an infinitesimal portion of the same, it is first necessary to see that there is abundant room to dump below the mine the vast quantities of debris to result from the entire working of the mine, for if this debris were permitted to accumulate near the end of the sluices, it would soon choke and cover the gold-saving appliances. It next becomes necessary to ascertain the quantity of water available, and the head or pressure under which it can be delivered at the mine.

The amount of work that can be accomplished depends greatly on these two contingencies; it is self-evident that to remove a large amount of material composed of sand, gravel, cobbles and rock, a considerable quantity of water is necessary, and if it is not obtainable, the operations of hydraulic mining cannot be carried on successfully. The amount of water used for operating an hydraulic mine varies greatly in different localities, viz., from 200 inches to several thousand inches daily, 500 to 1,500 inches being considered a fair volume to be discharged through one machine or giant, while the work accomplished by the quantity of water used is greater as the pressure under which it is discharged in the mine, and the grade of the sluices for conveying away the gravel increases.

As water used by miners is always measured by the inch, and all calculations of the value of gravel are best estimated by the duty of an inch of water, it becomes necessary to fully understand what an inch of water is, as well as its power to remove gravel under different conditions. The standard of measurement varies slightly in different mining districts, but the usual method of measuring water now in use in California is to discharge the water through a four-inch opening while the water in the measuring box stands four inches above the top of the discharge opening; thus an opening 125 inches long and four inches high will discharge 500 miner's inches, one inch being equal to a discharge of about 2,230 cubic feet in 24 hours. As an illustration of the advantage of estimating the value of a bank of gravel by its yield in gold per cubic yard, and the number of yards of gravel removed in 24 hours per inch of water used, where the water was used under different heads and the sluices under different grades, see the annexed table showing the results of the working of a few well-managed hydraulic mines in California.

By reference to the table, it will be seen that the mine yielding the least amount of gold per cubic yard gives the largest returns to its owners, for the reason, as the table shows, that the water was delivered at the mine under the greatest head, and the sluices for running away the gravel have the heaviest grade. It is evident that the value of the gravel per cubic yard is not a good standard, and for this reason the power of a definite quantity of water and a heavy grade in the sluices have been substituted to accomplish the desired result.

If grade for sluices, dump for debris, and a sufficient quantity of water are available, it is then worth while to ascertain whether the gravel will pay to wash, and under this head it will be easy to show, by reference to many operations on a large scale, that the cost of mining and washing a cubic yard of gravel may be brought to exceedingly low figures, but it is almost impossible to

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The price of water sold to miners in California for hydraulic mining varies from ten to twenty cents per inch per twenty-four hours, and this item must always influence the result, as it is the main one, but at the same time the actual cost of water to the ditch owner is not more than from two to five cents per inch, so that the ditch owners can afford to work gravel on their own account that would not yield more than one or two cents per cubic yard, considering other conditions, such as grade for sluices and dump for debris being reasonably favourable

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Table Showing Results of Working a few Well Managed Mines in California.

Name of Mine.....	Locality.	Quantity water used in miner's inches.	Height of Bank in feet.	Height or pressure of water in feet.	Grade of sluices in inches to 12 feet.	Cubic yards of gravel moved per inch of water used in 24 hours.	Average yield in cts. and fraction of cts. per cubic yard.	Av'ge yield in cts. and fraction of cts. per inch of water used in 24 hours.	Cost of m'ng per cub. yd. in cents and fraction of cents.		Total cost of moving per cub. yd. in cts. and fraction of cts.	Net profit per cubic yard in cents and fraction of cents.	Net profit in cents and fraction of cts. per min'rs in. water used in 24 hours.	Remarks.
									Water.	Labor &c.				
French Hill........	Stanislaus Co.	2150	30	70	$3\frac{1}{2}$	$1\frac{14}{100}$	12	13	$\frac{8}{10}$	$5\frac{1}{10}$	$5\frac{9}{10}$	$6\frac{1}{10}$	$6\frac{1}{10}$	The Company owns water which costs about 1 cent per inch.
North Bloomfield.	Nevada Co.	3000	260	300	$6\frac{1}{2}$	$4\frac{17}{100}$	$6\frac{6}{10}$	$27\frac{5}{19}$	$\frac{74}{100}$	$2\frac{45}{100}$	$3\frac{19}{100}$	$3\frac{41}{100}$	$24\frac{31}{100}$	This Company owns water which costs 3 cents per inch.
Independence Hill	Placer Co	500	150	375	12	24	3	72	$\frac{45}{100}$	$1\frac{09}{100}$	$1\frac{5}{10}$	$1\frac{5}{10}$	36	Both these Companies purchase water at 10 cents per miner's inch per 24 hours.
Big Bonanza......	Placer Co.	1500	Top Gravel 250	300	8	14	5	70	$\frac{71}{100}$	$1\frac{79}{100}$	$2\frac{5}{10}$	$2\frac{5}{10}$	35	

II. KOOTENAY.

ACCOUNT OF THE MINING DISTRICT OF WEST KOOTENAY (SOUTH) FOR 1895.

In order to make an account of Kootenay for the year 1895 intelligible it may be advantageous shortly to outline its previous history.

The wandering miner and prospector found his way into the country many years ago, coming in by way of the Columbia River. His sole object was placer gold. His enterprise was scarcely rewarded, except perhaps at Forty-nine Creek. Tradition tells of large winnings from the gravel of that creek, which to-day is in the hands of a modern hydraulic company. The story of the Indians and trappers making bullets from the outcrop of what is now the Blue Bell mine is tattered with much telling. It was not until within the last decade that the gloomy fastnesses of the Slocan were penetrated and the rich veins of silver discovered. Nine years ago (in 1886) the famous Silver King and its adjoining claim, the Kootenay Bonanza (now the property of the Hall Mines Ltd.) were discovered. Public attention was very slowly attracted to the district. This was owing largely to its inaccessibility, and ten, even five, years ago the prospector could hardly get in himself, much less could he induce the capitalist to follow him into those terrible mountains, high up upon whose sides, amid eternal snows and glaciers, and in the very path of avalanches, he claimed to have discovered veins of silver ore of almost fabulous wealth. Even if these stories were true, it seemed impracticable to mine those ledges. Yet they were so true that to-day almost impossible feats of transport have been accomplished and the miner has his choice of three trans-continental routes. Slowly the intrinsic value and shear wealth of the country pushed it ahead. Prospects became mines, in a small way. Little shipments of ore were made, giving remarkable returns; towns and villages began to spring up, steamboats were built on the lakes, everything looked well, and men who knew prophesied a great future for the country. Then, in 1893, came the blow. Silver fell to nothing, and, in the expressive language of the West, the bottom fell out of Kootenay. But only for a time.

With the beginning of 1894 the first train on the Nelson & Fort Sheppard line reached Kootenay Lake. Its promoters deserve credit for pushing on their enterprise through the black days of 1893, and now they seem likely to be rewarded for their pluck. As soon as the first shock occasioned by the "slump" in silver was over and people began to recover themselves they made calculations and found that many of the mines would pay to work with silver below 65 cents per ounce. The question was one almost entirely of transport. While there were rich veins that would stand the enormous cost of being hauled out to the distant smelters of the United States, there were large deposits of lower grade ore that could not possibly be made to pay with so much handling. The solution of the difficulty began as soon as its nature was understood. While Mr. Corbin pierced the country with his railway from the south, the C.P.R. made a pull in the other direction with the Nakusp & Slocan, which commenced work in the fall of 1894. Meanwhile the Columbia & Kootenay Railway had been built to connect Nelson and all the towns on the Kootenay Lake with the Columbia River, which affords navigation from Revelstoke, on the C.P.R. to the north, for 200 miles down to Northport in Washington, connection between all those apparently disjointed bits of railway being made by the excellent steamers of the Columbia & Kootenay Steam Navigation Company.

In 1893 a company had been formed to acquire the Blue Bell mine, a vast deposit of low grade galena lying actually on the shore of Kootenay Lake, just opposite the town of Ainsworth. This company proceeded with the erection of a large concentrator and smelter to treat their own ore at Pilot Bay, a suitable spot some nine miles from the mine, and also on the lake. When nearly completed the whole scheme was abandoned and the partly finished buildings left just as they were. Early in 1894 rumours of are organization of the company began to get about, and in July Mr. A. B. Hendryx, one of the principal shareholders, came in and energetically set to work to complete the buildings and put the mine into working order. This was done by the end of the year and in the early part of 1895 the first working smelter in British Columbia was blown in.

Meanwhile affairs in the Slocan became more hopeful. The further the mines were developed the more valuable they became, or at least they proved that their ledges fully carried out, at considerable depths, the promise of their previous development.

Of all these Slocan mines the Slocan Star is and always has been the first. In September, 1894, its owners had proved their vein by means of three tunnels to a considerable depth and were then driving in another which was intended to cut their vein at a depth of 500 feet from its outcrop. The calculations were realized, and the ledge was found where it was expected to be.

A syndicate of Duluth capitalists under the guidance of Mr. A. E. Humphries acquired, during 1894, a group of claims near Three Forks of which the Idaho and the Alamo are the chief, and proceeded with their development.

Far away on the other side of the same range the Alpha mine was shipping valuable ore, and to the south of this discoveries of mineral had been made on the shores of the Slocan Lake as far south as the Fisher Maiden, some ten miles from New Denver.

Fresh discoveries of mineral were continually being made not only in the neighbourhood of the older finds but in entirely new directions. The copper ores of the White Grouse Mountain began to attract attention. This is a camp situated about fifteen miles from Kootenay Lake and to the east of it. With Crawford Creek to the north and Goat River to the south it seems to be on the line of a copper belt of considerable value. Cariboo Creek, draining into the Columbia below Nakusp, attracted a small rush during the summer of 1894, and a town known as Burton City was located near its mouth.

Although discovered as long ago as the later eighties the claims on Trail Creek had entirely failed to attract notice. Their ores contained gold, but in small quantities and they were of an extremely refractory character. Late in 1894 affairs in Trail Creek began to show signs of activity and the townsite of Rossland was established.

The value of ore actually shipped up to this date (the end of 1894) is officially given in the report of the Minister of Mines as $784,965.

Such was the condition of affairs at the beginning of 1895. A very few mines, not more than could be counted on the fingers of one hand; several fairly developed prospects of great promise, and thousands of discoveries of mineral of all sorts in every direction, gold, silver, copper, lead, in abundance everywhere. It was truthfully said of Kootenay that when its miners found it did not pay to dig out silver they went across the hill and dug out gold.

With the advent of 1895 a new era commenced. Apart altogether from its material advances Kootenay may be said, during 1895, to have become known far and wide and to have attracted the attention of men whose notice was worth having. This became more and more evident as the year advanced by the number of people who visited the country both from the United States and Great Britain. Among the latter were Mr. Leo Norman, Mr. Hamilton Smith, Mr. J. H. Clemes and Lord Swansea, who although he did not actually come in to Kootenay visited British Columbia on Kootenay business and was only prevented from coming to Nelson by a mischance. His lordship's death shortly afterwards was felt by many who did not even know him, because it was understood that he took a great interest in and believed in the field which men were struggling to bring out. The American visitors of note were altogether too numerous to mention, but Mr. Sussman, of the Kansas City Smelting Company, and Mr. Heinze, of the Parrot Company, were two men whose visits meant smelting more than idle curiosity. It is an open secret that Mr. Sussman strongly urged his principals to come in and build smelters, while Mr. Heinze has actually built the large smelting plant at Trail Creek which will commence work this spring (1896).

The year opened with the blowing in of the Pilot Bay smelter under the general management of Mr. A. B. Hendryx. The plant from first to last, including the purchase of the Blue Bell mine, cost about $750,000. At Pilot Bay the buildings consist of a 200-ton concentrator, five large roasting furnaces and a 100-ton water-jacket furnace with the usual assay and sampling offices and other adjuncts of a smelting plant. Work was actually commenced on 9th March, 1895, and up to the end of the year 3,220 tons of silver lead bullion have been sent to the refinery at Aurora, Illinois.

The value of a smelter to its district may be gauged by the following figures :

SPENT DURING THE YEAR 1895.

On labour	$170,000
On supplies	85,000
Freight	92,500
Duty	70,000

The establishment of the smelter led to increased activity at Ainsworth, which is opposite Pilot Bay on the west shore of the Lake. The famous Number One mine was leased to some Nova Scotian people who began at once to put out ore, but the amount shipped from this mine has been disappointing. Late in the summer the Skyline, a mine a mile or so higher up than Number One, was opened up and has been putting out some 300 tons a month ever since. The material from these two mines is known as dry ore, that is to say it has little or no lead with it. The Black Diamond, Little Phil, Mile Point, and Highland have also shipped ore mostly to the Pilot Bay smelter, which purchased during the year 2,500 tons of the value of $156,464.

Early in the summer it became known that the Kaslo Railway was really to be built and shortly afterwards Messrs. Foley Bros. & Guthrie, the well-known contractors of St. Paul, took the matter in hand and pushed it through. The line was open for traffic in the fall, and is bringing down ore at the rate of about 150 tons a day. A temporary stoppage occurred during December, owing to the unusually heavy snow fall. The line follows the main fork of Kaslo Creek up to Bear Lake, which is situated on the divide between the Kootenay and Slocan Lake watersheds. Thence it continues almost on a level to Sandon, on the South Fork of Carpenter Creek. From Sandon, an extension runs to Cody, some two miles farther on. Nearly all the Slocan mines are thus tributary to it. The rival line, the Nakusp & Slocan, which was brought in 1894 to Three Forks, found itself virtually cut out of all the traffic. It was therefore extended to Sandon, at which point mine owners have their choice of either route. The railway extension has flattened out Three Forks and the centre of population has moved on to Sandon, which has suddenly grown into a considerable village with about eighty houses.

In the Slocan proper there were not any new discoveries of note during the year, but the development of the mines there in every case proved that previous indications were not false. This justified mine owners in spending money on development. The owners of the Alamo and Idaho groups built a concentrator about a mile below Three Forks on the Nakusp & Slocan Railway. It is connected with the mines, which are high above it, by a gravity tramway, the material for which was supplied by the B. C. Iron Works Co., of Vancouver, and it has been eminently successful. The concentrator turns out about 20 tons of concentrates, representing 100 tons of ore, a day. These concentrates are worth $100 a ton. Both the Idaho and the Alamo have paid dividends during the year ; the Idaho has paid $34,500 and the Alamo $35,000.

At the Slocan Star a large concentrator has been built, and another also at the Washington. The Slocan Star paid a dividend of 10 per cent. in August, amounting to $50,000.

During the fall and up to the end of December, 1895, the Slocan shipped 4,000 tons of ore; 2,500 tons *via* Nakusp and 1,500 tons *via* Kaslo. This must not be taken as any criterion of the season's work, because shipments did not begin until very late owing to the absence of snow, which is necessary to make the trails good for sleighs and rawhiding. During January over 1,200 tons have gone out, and from now on until May the shipments will be very large.

Although no new discoveries of any importance were made during the year in the Slocan proper, very rich finds were made in the region to the south of it in the district drained by the Ten-mile, Twelve-mile and Springer Creeks, all of which flow into the south-eastern part of Slocan Lake, and on Lemon Creek, which empties into the Slocan River a few miles after it leaves the lake. Mention has already been made of the Fisher Maiden and other discoveries south of Silverton, and these later ones are due to the energies of prospectors who pushed still farther south. It is yet too early to speak with confidence of the nature of the new finds, beyond saying that they are dry ores carrying large quantities of native silver and also assaying away up into the hundreds of dollars in gold. The country is difficult of access, the claims lying mostly some seven or eight miles from the lake and high up on the divides between the creeks. The hills are very rough and densely bushed. In spite of this many men were in the field in the fall and the town of Slocan City situated at the foot of the lake began a little boom which may mature this year. Among those who visited these claims and acquired interests was Mr. R. C. Campbell-Johnston, the well-known mining engineer, of Vancouver. Mr. John A. Finch has bonded two of the claims, the Arlington and Burlington, for $50,000, paying $5,000 down in cash, and also another group for $25,000. Only a very few men are at work here now, perhaps twenty in all, but as soon as the snow clears off there is sure to be a rush. The discoveries of mineral have been brought over the divide on to the Kootenay side, and rich gold-bearing quartz was found at the head waters of a creek which flows into the outlet about nine miles above Nelson.

Cariboo Creek flows into the Columbia River some fifteen miles below Nakusp from the eastward. From discoveries made here in 1894 a good deal of development was looked for this year, but has not taken place. The claims are a long way in from the river, which may account for this, and owners are sanguine as to the value of their properties. Discoveries were made at several points on the lower Arrow Lake, and valuable specimens brought in, but it was late in the autumn when this took place and nothing further was done.

While the Slocan and the rest of Kootenay has made what may be called an ordinary advance, the great Trail Creek Camp has jumped suddenly into a prominence that has attracted mining men from all over the world. The War Eagle claim was only acquired by its present proprietors late in 1894, and it may be said to have commenced active work at the beginning of 1895. About the same time the Le Roi was also put into good working order. At that time only some 1,200 tons had been shipped from Trail. During 1895 23,400 tons went out. In the same period Rossland grew from a village with half-a-dozen houses to a town of 3,000 inhabitants, with waterworks and electric light. At the mouth of Trail Creek on the Columbia River the end of the year saw a large smelter all but completed with the new town of Trail spread out at its feet. The ore is still brought down by wagons in the summer and by sleighs in the winter, a mode of conveyance which necessarily curtails the output, but a tramway is now under construction for the transport of the mineral from the mines to the smelter. Both the Canadian Pacific Railway and the Nelson & Fort Sheppard Railway have routes surveyed for railroads into this busy camp. The former has laid out a route to Robson while the latter intends to pull the other way and has a line surveyed, which under the name of the Red Mountain Railway, goes across the International line to the south and joins the Spokane line at Northport. The War Eagle Company is awaiting something definite in the way of railway construction before erecting a smelter for its own use. These companies are almost entirely owned in Spokane, and the tendency of their owners is naturally to make them as beneficial to that city as possible. American capital has found good reason already for erecting the smelter at Trail Creek, and if the B.C. Southern is built during 1896 (of which there appears to be some probability),

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the advantage of cheap coke being brought from the Crow's Nest Pass would turn the balance entirely in favour of British Columbia.

During the year no less than 1,997 claims have been recorded in the Rossland Camp, which, if they were all of the full size allowed by law, would cover over 160 square miles. During the summer the existence of valuable mineral, extending over a very large area, has certainly been proved.

In the immediate neighbourhood of Rossland, the whole of the Red Mountain has been found to be highly mineralized. On its lower benches are the War Eagle, Le Roi, Nickel Plate, Centre Star and Josie, while on its summit are the Mountain View, St. Elmo, Consolidated St. Elmo and Cliff. The latter has lately commenced shipping. To the east of the Red Mountain is the Monte Cristo Hill with the celebrated claims of that name, and the Iron Horse, while further to the east again on the Columbia Hill are the Columbia and Kootenay claims, under heavy bond to Duluth capitalists. To the south of the town is the Homestake recently bonded to a Vancouver syndicate, while still farther south are the Lily May and Zilor. To the west are the O.K. and I.X.L., two claims with rich free milling gold quartz.

While ore of nearly every kind is found within the limits of the camp the typical kind is undoubtedly that produced by the Le Roi and War Eagle. This is a pyritic iron carrying gold and copper. The gold is from two ounces per ton up to five or six ounces, and the copper varies from three to five per cent. The latest values as declared to Her Majesty's Customs are:

LE ROI.

Gold	2	ounces.
Silver	3	"
Copper	5	per cent.

Total value per ton $46.80.

WAR EAGLE.

Gold	2.5 ounces.
Silver	4 "
Copper	5 per cent.

Total value per ton $57.40.

For the sake of comparison a table is submitted, showing the quantitative analysis of ores from the principal shipping mines in the Slocan :

MINE.	LEAD, PER CENT.	SILVER, (OUNCES).	APPROX. VALUE.
Deadman	20	100	$ 71 00
Noble Five	33	120	96 30
Black Fox	65	100	104 00
Last Chance	30	100	83 00
R. E. Lee	65	120	126 30
Goodenough	15	265	181 25
" *	65	700	494 00
Washington	60	120	114 00
Northern Belle	70	80	94 00
Whitewater	20	100	77 00
Mountain Chief (Payne)	40	100	89 00
Slocan Star	60	85	91 25
Ruth	73	112	115 80
Lucky Jim	60	70	81 50

*830 bags of this high grade ore were shipped.

Omitting the exceptionally rich stuff from the Goodenough, these returns give an average value of nearly $102.00 per ton to the Slocan ore.

As the two great mines at Trail get deeper the ore increases in value, and in the Le Roi pay chutes of very valuable stuff, giving six and seven ounces in gold, have been struck. The vein also is widening out, and there is every evidence that the mines are as yet but in their infancy.

The War Eagle in the early part of the year paid its shareholders the sum of $32,000.00, which represented its cost price together with all improvements up to that time. It paid back to them every cent they had put into it. Since then it has paid them $100,000 more in dividends, besides paying for a great deal of development work and putting in large air compressing and other machinery. The Le Roi is a much more expensive mine to work than its neighbour, and required a greater initial expense, but it paid a dividend of five cents per share, amounting to $25,000 in September last, and has since paid (1st February, 1896,) another of $50,000.

Work is being pushed ahead on at least twenty claims and shipments from this camp during the year should be very large.

Discoveries of ore similar to that obtained at Rossland have been made on Champion and Bear Creeks, which flow into the Columbia on the opposite side to Trail Creek and a little higher up. No work has been done there yet.

Following the same trend, through the very roughest country, we come to the basin of the Salmon River, which empties into the Pend d'Oreille. On the North Fork and on Sheep Creek, another fork coming in from the east, valuable prospects have been reported. The line of the Nelson & Fort Sheppard Railway runs up the main branch of the Salmon, and a wagon road will probably be built in to Sheep Creek during 1896.

The whole of the country lying in the block bounded by the Kootenay River on the north, the Columbia on the west and the Pend d'Oreille on the south, appears to be highly mineralized, and culminates in the group of hills surrounding Toad Mountain, on which the Silver King is situated. On Forty-Nine Creek, which flows northward from this range, the Nelson Hydraulic Mining Co. has put up extensive works. In 1894 their plant was destroyed by the unusual floods. Last year the water barely sufficed to enable them to remove the boulders and debris of previous workings. With what little was left $4,000 worth of gold was taken out. Everything is in good shape for the commencement of work this year. There is plenty of snow on the hills, and there should be no scarcity of water.

A little to the eastward is the Poorman, a rich quartz mine on Eagle Creek. This mine is private property, and its returns are unknown, but it keeps a ten-stamp battery busy all the summer, and the familiar figure of one of the owners on an old gray horse is often seen outside one of the Nelson banks, when a handsome gold brick makes its appearance in the teller's box. The upper part of the Poorman vein is worked out, and the owners are now sinking in order to tap it at a lower level.

Between Eagle Creek and Forty-Nine Creek, and on the hills above them, where they have their sources, there are many claims having ledges of free milling quartz; of these the Royal Canadian is probably the best known.

At the Silver King the year has been noticeable for the inauguration of a policy of activity. A change of management took place in the summer and active measures at once commenced. The building of a smelter was commenced under the charge of an experienced man. A wire tramway was built from the mine to the smelter. This tramway, which is the largest of its kind in the world, is four and a half miles long. Its upper end is 4,100 feet above the smelter site, and was designed to transport ten tons of ore per hour. The smelter was finished by the end of the year, and was blown in during the first week of January, 1896. Its capacity was intended to be 100 tons per day, but it was found capable of dealing with about 115. It is an ordinary water-jacket furnace, and concentrates the ore now being used in the proportion of 10 to 1, producing a matte containing 300 ounces of silver, 48 per cent of copper and about $12 in gold to the ton. The shares in the Hall Mines Company, which had been difficult of sale at $2.25 to $2.40, rose at once and were unobtainable at $3.

The town of Nelson has grown from a village to a place of some importance, though it is still second in size to Rossland. Its central position, its banks and its Court House make it the capital of the country. Recognizing this, wholesale firms from the Coast, from Winnipeg and from Spokane have established themselves

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here; every store and every dwelling house is occupied, and new buildings are going up as fast as lumber can be obtained to build them.

In August Nelson was created a Dominion port of entry, with outports at Kaslo, Rossland, Waneta and Rykerts. Previously these places, together with Nelson, had been outports of New Westminster. The returns for the last five months of the year convey some idea of the amount of trade handled in West Kootenay.

TABLE SHOWING CUSTOMS RETURNS AT THE PORT OF NELSON FOR THE FIVE MONTHS AUG.-DEC., 1895.

IMPORTS.

Dutiable Goods	$291,242
Free	995,16
	$390,758

REVENUE.

Duty and other Revenue	$ 88,551

EXPORTS.

Produce of Mines	$728,191
" " Forest	215
" " Animals	3,221
Manufactures	5,212
	$736,839

Revelstoke still remains an outport of New Westminster and consequently this return takes no cognisance of the enormous mass of freight that comes into the country by that route, nor does it include that part of the Slocan ore which goes out that way. This latter amounted to over 2,600 tons of a value at least of $260,000, which brings the exports of Kootenay for the latter half of 1895 close upon the sum of one million dollars.

The following table gives an idea of the amount of work done during 1895:

MINING RECORDS FOR WEST KOOTENAY (SOUTH) FOR 1895.

DIVISION.	NEW CLAIMS RECORDED.	ASSESSMENTS RECORDED.
Nelson	403	110
Rossland	1,997	213
Ainsworth	410	363
Slocan	630	500
Nakusp	210	25
	3,650	1,211

(Owing to the illness of the Recorder at Goat River the returns from that division are not yet available).

TABLE SHOWING AMOUNT OF ORE MINED, IN TONS, 1895.

Nelson	1,871
Ainsworth	2,327
Trail Creek (gold ore)	23,361
Slocan	9,264
Blue Bell Mine	41,767
	78,590

CHARLES ST. BARBE,
Nelson, B.C., Feb., 1896.

WEST KOOTENAY.

Ores exported year ending June 30th, 1895,
18,038 tons valued at $1,491,811

DESCRIPTION OF ORES SHIPPED FROM WEST KOOTENAY FOR SIX MONTHS ENDING 31ST DEC., 1895.

Gold value	$603,901
Silver "	535,905
Lead "	181,922
Copper "	53,662
	$1,375,390
From Pilot Bay smelter, bullion estimated	200,000
Grand total	$1,575,390

SUMMARY.

ESTIMATED VALUE OF OUTPUT OF ORES FOR B.C., YEAR ENDING 31ST DEC. 1895.

West Kootenay	$2,260,000
East "	100,000
Cariboo and Lillooet	350,000
Remainder of the province	50,000
Total value	$2,760,000

The above figures have been obtained from the most reliable sources and may be taken as approximately correct.

The construction of a further line of railway the Columbia Western, from Trail through the Kettle River district to Penticton on Okanagan Lake is likely to be commenced at an early date.

III. COAL MINING.

(Copy of letter by the courtesy of S. M. Robins, Esq.)

Total output for British Columbia for the year ending 31st December, 1895	939,654 8-20 tons.
Total amount exported	756,333 16-20 "
Local Sales (including dross used as fuel by collieries)	188,349 "
Balance on hand 31st December, 1894	38,579 1-20 "
Balance on hand 31st December, 1895	33,550 13-20 "

The coal productions of the collieries of Vancouver Island culminated in 1891 when the output reached 1,029,027 tons, falling to 826,335 tons in 1892, increasing to 978,294 tons in 1893, and to 1,012,953 tons in 1894, falling again during 1895 to 938,654 tons. These figures shew that the business has been almost at a stand-still during the past five years, whilst for the previous seventeen years (1874 to 1890) there was a gradual increase from 81,000 tons in 1874 to 678,140 tons in 1890.

The above figures not only record the output of the collieries but are a fair measure of the growth of consumption in San Francisco and Southern California ports, which may be said to comprise the coal market of the Northern Pacific.

The Vancouver Island Collieries supplied in 1894 forty-two per cent. of the total consumption in the California market, which may be taken as a fair average for the last twenty years.

From now onwards, owing to the importation of Welsh anthracite coal, the Vancouver Island mines are not likely to hold so prominent a position in the California market, and it will follow as a matter of course (there being but a limited market in B.C. for home product) that the coal mining industry will remain at a standstill until new markets are opened up, or there be decreased deportations from Great Britain and Australia, owing to a hardening of freights inwards or an advance of rates at the above export centres.

This market outlook has had its effect in checking development of the coal areas of Vancouver Island and Queen Charlotte Islands.

The three coal companies, the New Vancouver Coal Company, Messrs. R. Dunsmuir & Sons and the Union Coal Company, are all carrying on developments to keep pace with market requirements.

The New Vancouver Coal Co. are making a minute examination of their Harewood Estate to the west and south of Nanaimo, where large areas of coal are known to exist, but where little exploratory work has hitherto been carried out.

The Wellington Colliery Co. have been recently opening up a new district near Departure Bay as well as extending their works to the south-west towards Mount Benson.

The Union Colliery Co. have recently completed a new shaft at Comox and are opening out their works in two of the seams pierced in the sinking. This company also owns the Alexandria Mine on the E. & N. Railway, where slope sinking is now going forward. They are also sinking a slope near Nanaimo River, south of the New Vancouver Coal Company's Harewood Estate, where an excellent seam of coal has recently been found.

Some work has been done at an outcrop of coal on what is known as the Jordan Estate, lying to the West of, and adjacent to the Wellington Estate. The coal area at this place is necessarily limited, but the quality of the seam is excellent, and considerable expense has been incurred in building a tramway to Nanoose Bay where shipments have already been made for the local markets.

In Queen Charlotte Islands, where for many years past surface explorations have been made by Victoria capitalists who own a large tract of land in the centre of Graham Island, coal has been found at several points, and drifts have been driven during last summer in two or three localities which, it is understood, proved seams of excellent coal of workable thickness.

During the present lull in the coal trade it is not probable that any active operations will be undertaken, but on the first indication of improvement it is probable energetic measures will be taken to develop both the bituminous and anthracite seams found on this Island.

AGRICULTURE.

The agricultural interests of the province, during the year 1895, suffered considerably owing to the low prices obtainable for nearly all farm produce, and also from the scarcity of ready cash among the farmers, in numerous cases the inability to finance the products of the farm causing serious loss to the producer. It is, however, satisfactory to notice that steps are being taken in several localities tending towards co-operation among farmers. This will prove largely instrumental in assisting them to secure for themselves a greater share of the advantages of the home markets, as heretofore they have been entirely at the mercy of middle-men, who have been large importers of American produce, one of the most plausible reasons given by produce men for their large foreign importations being that they cannot depend on either the grade or the uniformity of home productions, and do not care to jeopardise their own interests in attempting to force inferior goods on their customers. They have also contended that the home supply could not be relied on for filling their orders as required, and that, therefore, their interests and sympathies have been with the maintenance of an active foreign connection. In this respect their self-interested actions have been but natural, as of course, curtailment of imports to any large extent might soon cripple the carrying trade, and its demoralization would at once force them to depend entirely on local supplies. No doubt this explains some of the reasons why preference has so often been shown to the imported article, and in cases, not a few, where both grade and price have slightly favoured the home product. This problem has its solution in the natural increase of production and the attendant improvements as to grade and uniformity that are bound to come with the further development of the province.

It has been the common and popular belief that the amount of land in British Columbia, fit for cultivation, is very limited, but it has now been demonstrated beyond question that such a supposition is erroneous, and that the quantity of first-class farming land throughout the country is very considerable.

The following is a rough approximation to the total acreage of agricultural lands owned and cultivated in the Province during the year 1894 :—

	VANCOUVER ISLAND.	LOWER MAINLAND.	UPPER MAINLAND.	TOTAL.
	ACRES.	ACRES	ACRES.	ACRES.
Owned..........	233,000	294,000	720,000	1,247,000
Cultivated......	19,000	43,000	49,000	111,000

During last year a considerable quantity of farm land, principally on the Mainland, passed from the Crown to the settler, so that the Government report for the year 1895 (not yet issued) will show an increase over the above figures, notwithstanding which the actual acreage under cultivation and yielding returns to the owners last year was small, and certainly smaller than the figures that will appear in the Government report.

In this connection attention may be drawn to the fact that allowance should be made for the methods employed by the Department of Agriculture at Victoria in the collection of their data, which are as yet crude and imperfect ; however, when one considers how the small white population of the Province is scattered throughout the different districts, and the difficulties of communication, the Department is to be commended for the volume of useful and fairly reliable information issued annually.

The acreage under cultivation in the Province last year may be estimated not to exceed 130,000 acres, from which it will be seen that the proportion of cultivated land to the total amount of arable land owned by individuals is very small, while the proportion of cultivated lands to the whole agricultural area of the Province is again much smaller. At present the imports of agricultural products are, in round figures, about $2,500,000.00 yearly. On these facts some have argued that as the areas of cultivated lands increase that the existing present advantages of an importing home market will gradually disappear, and as the supplies furnished within the Province grow to meet the demand, that prices will fall to nothing.

To this it may be answered that, on the contrary, all agricultural interests will improve by virtue of a general adoption of better and more scientific methods of farming, as also by inaugurating throughout the rural districts such industries as creameries, cheese factories, fruit packing establishments, etc.

British Columbia has been and is paying high prices for creamery butter, etc., imported from the North West and elsewhere at considerable inconvenience and expense, when as a matter of fact, it is estimated that even the present small percentage of agricultural lands under cultivation and favourable to dairying, if cultivated in a proper and methodical manner, would prove quite sufficient to supply the present wants of the Province in that respect.

Again, the introduction of agricultural organizations and movements for co-operation among the farmers and fruit growers of the Province, as well as the introduction of better methods of farming, would have the tendency of reducing both the quantity of land held on an average by each individual, as well as the yearly increment of new ground brought into a state of cultivation, thereby materially lessening the cost of public improvements per capita and increasing the average yield per acre.

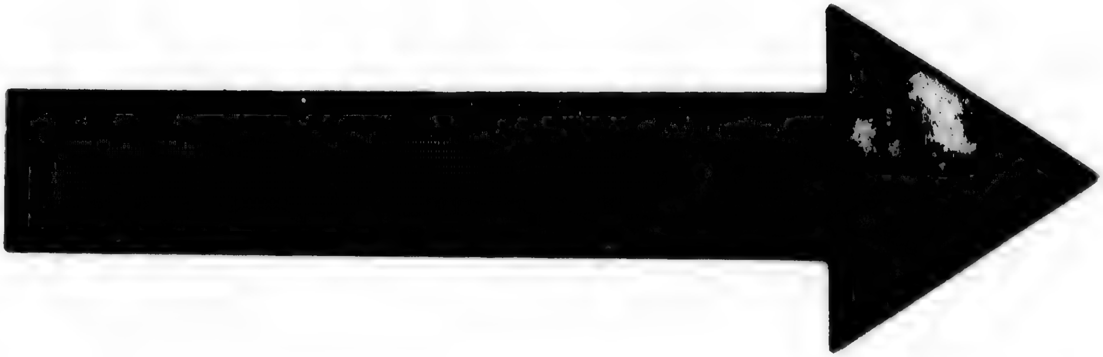
The Provincial land policy of the past has proved erroneous and it is pleasing to note that the Government now recognizes the advisability of encouraging small holdings, a policy which while less enticing to the speculator offers greater opportunities to the bona fide settler.

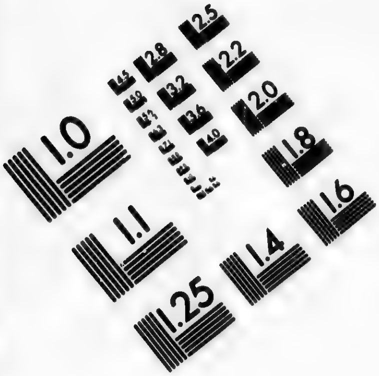
It must be apparent to all who have studied the agricultural problem of the Province that apart from other considerations, we are now suffering from a condition peculiar to all new countries during the earlier periods of their development. The high prices of the past and the ease with which a living could be made by cultivating a small patch of land, and this in the crudest possible manner, had the effect of inducing all sorts of people to take up farming. We find that miners, soldiers, sailors, railway men, prospectors and a host of artisans, mechanics and tradesmen of all descriptions from the densely populated cities of the Old World, whose former mode of life, physical training, education, etc., could only be expected to prove so many handicaps, were among the first to locate and secure large tracts of land in this Province. Notwithstanding the favourable conditions then existing, a large percentage of these pioneers gradually melted away, and for a time the agricultural interests of the country remained in the hands of a class who eventually became known as "old timers" and "moss-backs."

These farmers of the past only studied to grow that which would give them the greatest return for the least expenditure of thought and labour; we, therefore, find that a large majority grew hay exclusively, a state of things which had a very demoralizing effect on the majority of subsequent settlers, mostly farmers from Ontario, the Eastern Provinces, Manitoba and elsewhere, who drifted into the most careless and make-shift habits imaginable.

It is not long since one might travel through some of the agricultural districts and stockraising valleys of the Province without being able to obtain a pint of fresh milk or seeing a pound of home-made butter, condensed milk being used very generally and in numerous cases without the slightest excuse. Within the last five or six years the increased facilities of transportation, the general financial depression and stagnation in many avenues of trade have so materially altered the situation that, notwithstanding the fact that the Province is still a large importer of farm products, it has been possible to glut the local market in a few articles, as for instance, hay and potatoes. In consequence a large proportion of the earlier settlers are now being forced by inevitable circumstances, either to abandon their primitive farming or are being supplanted by a better and more thrifty class.

When one considers the importance of this industry and how the pulse of our internal commerce responds to its activity, it is to be sincerely hoped that both the Dominion and Provincial Governments will devote more attention and expend more money with a view of protecting the farming districts of the Province. The farming and fruit growing industries should be encouraged and assisted in every possible way, for has not the





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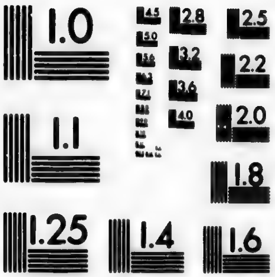

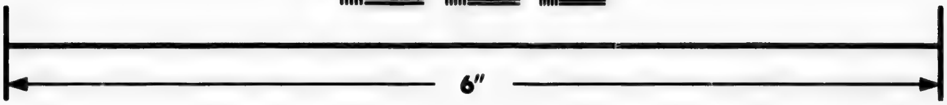

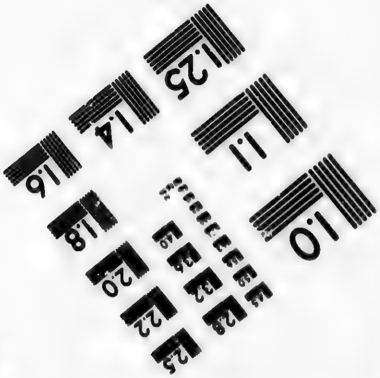

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country a most salubrious and favourable climate, together with a variety of rich soils admirably adapted for the successful cultivation of all kinds of farm and orchard products ?

As has been stated, reduced holdings, improved methods of farming and increased facilities of transportation, together with co-operation and the introduction of creameries, cheese factories, etc., would all tend to improve the agricultural interests of this Province, and in combination with the development of the country's great mineral wealth and the expansion of our lumber business would attract immigration, and thereby most readily inaugurate an era of agricultural prosperity.

Statistics for 1895 not yet published.

Imports and Exports.

The imports of agricultural products show a slight increase, viz.:—

Value of imports to 30th June, 1894	$2,422,374
Duty paid	213,286
	$2,635,660
For the same period ending 30th June, 1893	2,630,217
Increase	$ 5,443

This increase appears altogether in the amount of duty paid, showing that either there was a larger quantity of products imported from foreign ports, or that a large quantity remaining in bond from the previous year paid duty during the last fiscal year ; probably both causes contributed to the increase. The figures are :

Duty paid to June, 1894	$ 213,286
" " 1893	146,827
Increase	$ 66,459

The actual value of imports show a decrease, viz.:

Imports to 30th June, 1894	$2,422,374
" " 1893	2,483,390
Decrease	$ 61,016
Difference	5,443

The exports to other countries again show a large falling off, viz.:

Exports to 30th June, 1894	$ 82,049
" " 1893	112,219
Decrease	$ 30,170

The exports by the Can. Pac. Ry. to the other Provinces are not shown, it being impossible to obtain the data. This would doubtless show a material increase.

Some of the principal imports as were follows:

Butter, 1894	2,390,685 lbs.
" 1893	2,065,435 lbs.
Increase	325,250 lbs.

This increase is almost entirely from foreign ports, that from the other Provinces being only about 2,000 lbs.

Cheese, 1894	389,631 lbs.
" 1893	346,749 lbs.
Increase	42,882 lbs.

This increase is entirely from foreign ports, the imports from the other Provinces having decreased.

Bacon, hams and lard, 1894	2,732,433 lbs.
" " " 1893	3,370,129 lbs.
Decrease	637,696 lbs.

This decrease occurs altogether in the imports from the other Provinces, the imports from foreign ports showing an increase.

Cattle, 1894	2,106	head.
" 1893	3,561	"
Decrease	1,455	head.

This item stands in the same position as the last.

Sheep, 1894	42,735	head.
" 1893	34,860	"
Increase	8,075	head.

This increase is altogether from foreign ports, the imports from the other Provinces having decreased.

◆

Exports from British Columbia to Countries outside of Canada of products of Agriculture and its branches for the three years ending 30th June, 1894.

	Year ending 30th June, 1891.		Year ending 30th June, 1892		Year ending 30th June, 1893.		Year ending 30th June, 1894.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
LIVE STOCK:—								
Horses head	31	$ 4,230	24	$ 8,781	23	$ 2,955	282	$ 16,250
Horned cattle "	5	705	10	531	4	200	2	35
Swine "			13	115	1	10		
Poultry & other animals "						8,568		303
MEATS, ETC.								
Poultry		597		97				
Hides, horses, and skins [not fur		70,248		72,276		49,383		35,995
Bacon lbs.	64	10	403	55	3,813	655	2,343	393
Beef "	1,648	183			90	7	625	51
Hams "			425	58			214	34
Mutton "	104	13					150	16
Pork "			360	33				
Sheep pelts No.	20,102	11,055	43,596	18,566	45,110	21,613	15,833	4,566
Wool lbs.	37,390	3,739			493	64		
GRAIN, SEEDS, &C., BREADSTUFFS AND PRODUCTS OF								
Bran cwt.	205	82	1	2	1,323	503	1,762	449
Barley bush.			1,687	648			2	1
Beans "	4	10						
Oats "	145	105	271	183	180	85	4	2
Peas, split "	900	729						
Wheat "			6,501	7,801	3	3	35	18
Flour bbls.	4	21	2,450	10,967	4,946	21,279	48	173
Biscuits & bread. lbs.	556	1,945			cwt. 30	10	cwt. 8	66
Oatmeal bbls.	2	15		1				
All other meal. "	10	32						
FRUITS & VEGETABLES.								
Apples, green bbls.	25	85	61	295	172	1,001	75	472
Fruits, canned lbs.		25		3,181		1,177		6,301
Other fruit "		45		3		926		2,984
Potatoes bush.	37	18	5	3	567	398	6	6
All other vegetables.		795						21
DAIRY PRODUCTS.								
Butter lbs.	3,188	802	5,050	1,472	7,507	2,246	3,320	984
Cheese "	6,214	973	440	53	6,851	964	4,655	695
EGGS doz.							34	11
HAY tons,	254	2,701	62	589	5	60		
TREES AND BUSHES		106		81		112		22
HOPS lbs.							44,907	12,201
		$ 99,269		$125,791		$112,219		$ 82,049

Imports into British Columbia from other Countries and Prov be produced in the Province, for

				Year ending 30th June, 1892.		
				Quant'y.	Value.	Duty.
Live Stock—	Horned Cattle,	Other Countries,	head	1,203	$ 30,141	$ 9,042 30
“	“	“ Provinces,	“	3,062	91,860	....
“	Horses,	“ Countries,	“	520	22,351	4,470 20
“	“	“ Provinces,	“	437	27,094	....
“	Sheep,	“ Countries,	“	44,554	97,688	29,306 40
“	“	“ Provinces,	“	471	1,177	....
“	Swine,	“ Countries,	lbs.	10,429	592	208 58
“	“	“ Provinces,	head	2,691	26,910	....
“	All other,	“ Countries,		....	6,518	1,303 60
Meats, &c-	Bacon and hams	“ “	lbs.	342,500	38,407	9,980 91
“	Lard,	“ “	“	157,635	14,339	4,366 35
“	Bacon, hams and lard,	“ Provinces,	“	2,964,000	340,860	....
“	Beef (fresh or salt)	“ Countries,	“	134,591	8,580	592 74
“	Beef and mutton,	“ Provinces,	“	732,000	51,240	....
“	Mutton,	“ Countries,	“	10,796	767	323 88
“	“	“ Provinces,	“	Includ'd	with	beef.
“	Pork,	“ Countries,	“	68,800	6,059	186 00
“	“	“ Provinces	“	26,000	2,080	....
“	Poultry,	“ Countries,	“	....	4,995	934 19
“	“	“ Provinces,	“	168,000	16,800	....
“	Canned and other,	“ Countries,	“	516,250	51,504	11,599 14
“	Tallow,	“ “	“	50,627	2,254	506 27
Grain, Seeds, Etc., Bread-stuffs and Prod'cts of—	Biscuit,	Other Countries,	“	222,370	9,880	2,594 60
	Buckwheat meal,	“ “	“	30,328	1,047	75 75
	Cornmeal,	“ “	bbls.	793	2,990	319 93
	Oatmeal,	“ “	lbs.	399,288	12,934	1,996 43
	Rye flour,	“ “	bbls.	105	524	52 25
	Wheat flour,	“ “	“	20,562	92,793	14,648 33
	“ “ and meal of all kinds,	“ Provinces,	“	55,870	307,285	....
“	Bran and mill feed,	“ Countries	“	....	34,001	6,800 30
“	“ “	“ Provinces,	lbs.	4,798,000	31,187	....
“	Other breadstuffs,	“ Countries,	“	....	15,412	3,080 20
“	Barley,	“ “	bush.	1,502	926	225 55
“	“	“ Provinces,	“	9,760	33,904	....
“	Beans,	“ Countries,	“	6,816	9,467	1,017 17
“	Indian corn,	“ “	“	5,730	4,383	429 71
“	Buckwheat,	“ “	“	11	19	1 10
“	Oats,	“ “	“	21,054	9,906	350 80
“	“	“ Provinces,	“	224,672	78,635	....
“	Peas,	“ Countries,	“	434	580	40 00
“	Rye,	“ “	“	168	152	16 85
“	Wheat,	“ “	“	28,184	22,736	3,440 49
“	“	“ Provinces,	“	59,933	47,946	....
“	Flaxseed,	“ Countries,	“	102	177	10 23
“	Beet, carrot, turnip, etc.,	“ “	lbs.	964	228	Free.
“	Other,	“ “	“	....	7,708	920 75
Fruit and Vege-tables—	Apples, dried,	“ “	“	91,975	6,353	1,826 51
“	“ and other, dried	“ Provinces,	“	240,000	19,200	....
“	Plums and Prunes,	“ Countries,	“	150,148	8,961	1,405 66

inces of such products of Agriculture and its branches as can three years ending 30th June, 1894.

Year ending 30th June, 1893.			Year ending 30th June, 1894.		
Quantity.	Value.	Duty.	Quantity.	Value.	Duty.
72	$ 1,583	$ 474 90	194	$ 5,124	$ 1,137 80
3,489	104,670	......	1,912	57,360	....
634	30,438	6,087 60	740	31,487	6,297 40
212	13,144	......	232	14,384	....
29,931	71,662	21,498 60	40,044	73,388	20,475 90
4,929	12,322	....	2,691	6,727	....
5,188	465	103 76	2,355	150	26 35
2,680	26,800	....	3,363	33,630	....
......	4,571	914 50	......	5,863	1,172 50
269,473	35,518	7,614 95	319,343	40,337	7,727 00
36,656	3,831	1,414 68	115,090	11,255	2,57F 44
3,064,000	352,360	....	2,298,000	258,525	....
286,391	19,615	3,949 76	207,852	12,262	344 88
336,000	23,520	....	194,000	13,580	....
1,731	113	51 93	79,711	2,906	1,393 89
Included	with	beef.	Included	with	beef.
76,526	8,160	112 89	51,789	5,786	38 03
48,000	3,840	....	526,000	42,080	....
......	4,483	712 80	......	4,478	794 95
156,000	15,600	....	194,000	19.400	....
512,573	46,807	10,218 00	906,840	71,847	24,568 86
6,494	221	64 94	13,185	368	124 85
232,300	8,329	2,069 20	89,135	3,957	1,075 05
30,944	1,076	77 36	24,319	865	60 81
1,036	2,863	414 76	904	2,510	350 56
120,341	3,763	601 71	59,950	1,764	306 21
152	628	76 25	160	621	80 13
20,526	74,060	14,767 54	22,298	64,430	16,034 48
69,980	384,890	....	59,800	328,900	....
......	26,096	5,217 60	......	56,631	11,326 20
6,262,000	40,703	....	3,232,000	21,008	....
......	14,216	2,798 10	......	13,009	2,600 20
1,558	878	233 77	3,035	1,164	455 38
23,120	9,248	....	4,560	1,824	....
6,427	9,766	943 37	8,011	10,079	1,221 06
7,916	4,902	594 72	9,620	5,375	721 62
6	11	63	22	32	2 20
25,853	10,635	4,339 97	212,773	70,459	17,127 29
184,788	64,675	....	54,634	19,121	....
655	819	61 28	1,051	1,220	93 31
297	216	29 75	252	174	25 30
14,627	11,533	698 79	60,642	25,159	6,096 32
66,400	53,120	....	15,866	12,692	....
42	74	4 25	67	96	7 15
1,151	282	Free.	2,864	675	Free.
......	9,756	1,051 66	... ..	9,435 36	1,071 55 Free.
14,557	1,192	297 14	162,882	13,018	2,970 30
152,000	12,160	....	94,000	7,520	....
118,227	9,595	1,189 20	169,509	12,327	1,615 56

Imports into British Columbia from

				Year ending 30th June, 1892.		
				Quant'y.	Value.	Duty.
Fruit and Vegetables—Almonds, filberts and walnuts,		Other Countries,	lbs.	60,354	$ 4,140	$ 1,611 45
“	Apples, green,	“ “	bbls.	7,701	26,126	3,080 32
“	“	“ Provinces,	“	1,624	6,496	....
“	Small fruits,	“ Countries,	lbs.	18,565	1,923	556 95
“	Cherries,	“ “	quarts.	38,754	8,309	387 54
“	Cranberries,	“ “	bush.	690	2,424	207 07
“	Currants,	“ “	quarts.	....	....	....
“	Peaches,	“ “	lbs.	255,402	9,275	2,554 02
“	Plums,	“ “	bush.	4,713	8,983	1,414 15
“	Quinces,	“ “	“	55	92	16 50
“	Canned fruits,	“ “	lbs.	248,352	11,816	6,431 20
“	“ fruits & vegetables	“ Provinces,	“	1,294,000	43,133	....
“	Jams, jellies, etc,	“ Countries,	“	57,525	5,403	2,308 35
“	Melons,	“ “	No.	1,160	66	16 50
“	Tomatoes,	“ “	bush.	1,142	2,444	587 00
“	Potatoes,	“ “	“	68,866	22,259	10,198 10
“	“	“ Provinces,	“	150	23	....
“	Other vegetables,	“ Countries,	lbs.	93,188	4,624	1,770 14
Trees and Bushes—	Apple,	“ “	No.	24,322	2,154	729 66
“	Cherry,	“ “	“	3,377	436	135 08
“	Peach,	“ “	“	2,707	302	81 21
“	Pear,	“ “	“	4,128	602	123 84
“	Plum,	“ “	“	11,933	1,649	358 00
“	Quince,	“ “	“	161	31	4 05
“	Other,	“ “	“	...	4,919	986 84
“	Not specified,	“ Provinces,	tons.	36	9,000	....
Oils—	Lard,	“ Countries,	gals.	1,381	708	141 60
“	Neatsfoot,	“ “	“	532	249	49 80
“	Linseed,	“ “	lbs.	397,172	20,951	4,225 68
“	“	“ Provinces,	“	184,000	12,880	....
Dairy Produce—	Butter,	“ Countries,	“	245,970	51.372	9,260 00
“	“	“ Provinces,	“	1,432,000	358,000	....
“	Cheese,	“ Countries,	“	37,470	6,043	1,146 67
“	“	“ Provinces,	“	350,000	35,000	....
“	Condensed milk,	“ Countries,	cases.	1,136	6,816	2,360 59
“	“	“ Provinces,	“	7,120	35,600	...
Chicory,		“ Countries,	lbs.	23,761	917	670 76
“		“ Provinces,	“	Omitted	previous	years.
Cider,		“ Countries,	gals.	2,361	1,673	234 05
Hay,		“ “	tons.	827	7,707	1,541 40
Hops,		“ “	lbs.	18,888	4,275	1,133 34
Honey		“ “	“	24,386	3,186	731 63
Malt,		“ “	bush.	28,053	24,212	4,207 98
“		“ Provinces,	“	16,040	14,035	....
Mustard,		“ Countries,	lbs.	16,756	4,689	910 35
Eggs,		“ “	doz.	151,301	17,995	Free.
“		“ Provinces,	“	545,904	84,615	....
Oil Cake and Meal,		“ Countries,	cwt.	5,297	7,111	Free.
Pickles,		“ “	gals.	15,609	16,108	3,915 13

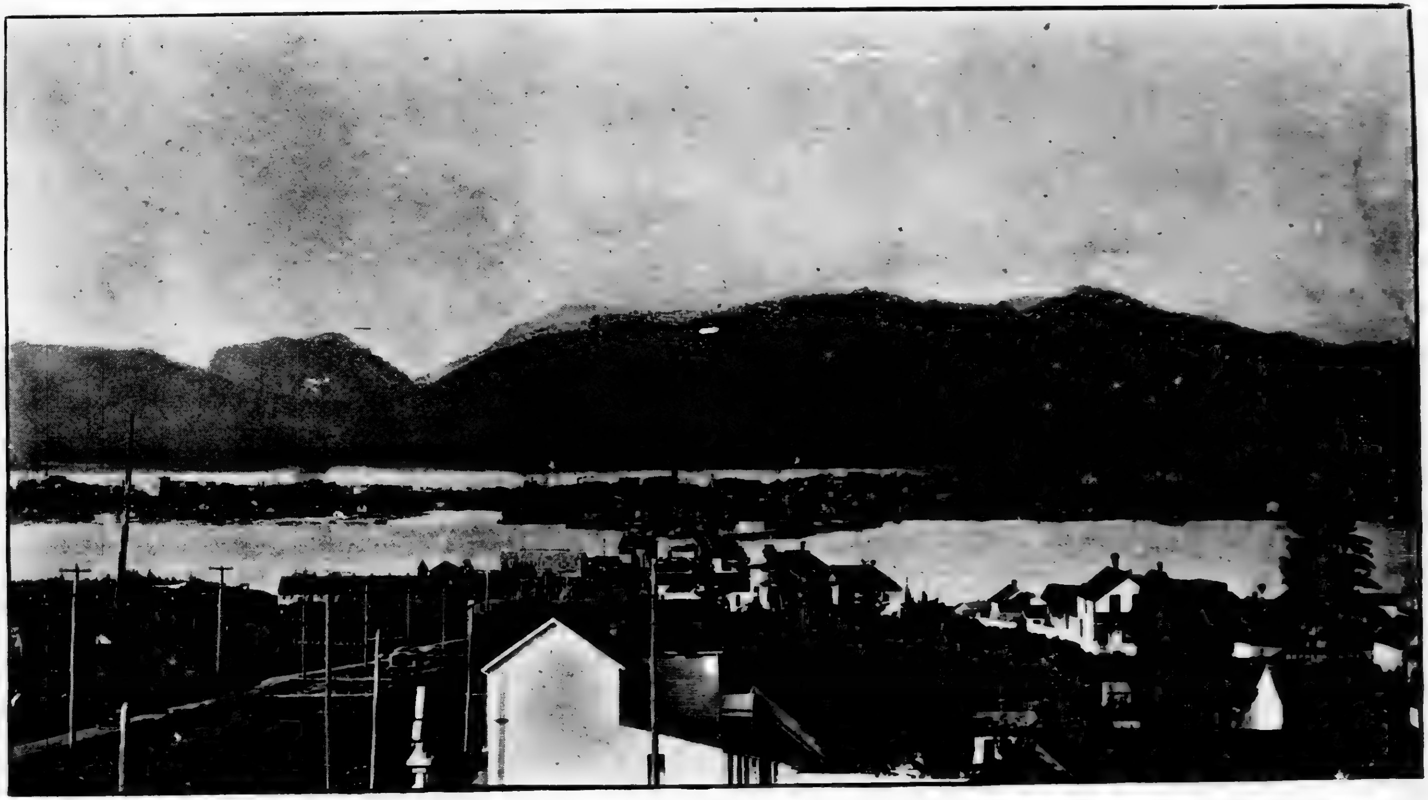
Add to above the following animals imported from other countries for breeding purposes, and therefore entered duty free:

Horses	head	19	19,472	....
Cattle	“	16	870	...
Sheep	“	14	400	....
Fowls	“	....	476	....
Swine	“	....	....	....
			$2,483,540	$176,158 92

other Countries and Provinces—*Continued.*

Year ending 30th June, 1893.			Year ending 30th June, 1894.		
Quantity.	Value.	Duty.	Quantity.	Value.	Duty.
39,696	$ 3,315	$ 1,464 79	46,794	$ 3,797	$ 1,465 88
3,696	14,310	1,478 42	9,938	35,722	3,975 32
2,353	9,412	....	858	3,432	....
21,308	1,642	639 24	104,363	6,028	2,542 39
36,878	6,883	368 78	54,543	4,763	922 27
991	2,584	297 40	550	1,559	169 40
215	17	2 15	(lbs.) 228	12	3 88
169,517	7,632	1,695 17	223,026	7,280	2,230 26
2,178	5,303	653 28	3,708	6,541	1,148 95
69	113	20 75	94	99	28 45
155,054	6,923	5,114 05	147,811	6,558	3,513 56
1,218,000	40,600	....	1,458,000	48,600	....
54,333	5,008	1,809 50	30,159	2,703	1,551 14
1,648	211	52 75	4,070	368	92 00
842	1,628	415 70	1,144	1,836	525 91
35,389	22,630	5,255 62	78,236	33,781	11,661 25
36,900	12,177	....	......	......	....
65,755	4,206	1,208 16	59,610	2,782	1,032 37
21,720	1,601	651 60	14,398	1,319	431 94
3,342	379	133 68	1,916	244	73 74
2,017	237	60 51	861	114	25 83
5,076	614	152 28	3,497	411	104 91
18,504	1,707	555 12	13,862	1,151	415 86
156	20	3 92	101	17	2 54
......	899	285 97	......	2,473	540 07
14	2,800	....	25	5,000	....
454	267	53 50	480	258	51 60
306	236	47 20	116	81	16 20
538,426	22,603	5,830 79	163,531	8,429	1,146 46
78,000	5,460	....	114,000	7,980	....
245,435	49,694	8,634 77	568,685	111,252	21,001 59
1,820,000	455,000	....	1,822,000	455,500	....
28,749	4,703	857 68	73,631	9,237	2,145 26
318,000	31,800	....	316,000	31,600	....
815	5,558	1,734 10	......	10,589	3,601 90
8,900	44,500	....	8,333	41,665	....
8,326	321	426 57	6,146	321	442 46
Omitted	previous	years.	32,000	2,240	....
1,212	848	124 37	1,576	1,150	156 80
1,399	13,490	2,698 00	1 812	18,156	3,670 64
22,948	5,678	1,376 84	18,353	3,861	1,101 17
13,009	1,814	369 27	22,896	2,162	597 30
46,856	34,755	7,028 47	48,172	33,669	7,255 80
6,880	6,020	....	3,840	3,360	....
16,387	4,016	1,075 75	6,106	1,798	601 25
53,612	9,052	2,631 38	78,853	12,742	3,942 71
			57,692	7,307	Free.
563,472	87,337	....	486,468	72,970	....
1,193	2,145	Free.	801	1,431	Free.
7,700	8,334	3,033 48	3,904	3,010	2,188 75
4	905	....	15	7,917	Free.
1	75	....	7	1,400	"
4	120	....	3	165	"
......	349	....	....	401	"
4	50	....	3	45	"
	$ 2,483,390	$ 146,827 57		$ 2,422,374	$ 213,286 34

VANCOUVER, B.C., 1886.



FROM MOUNT PLEASANT.] VANCOUVER, B.C. [HARBOUR IN THE DISTANCE.

1896.

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VANCOUVER, B.C.

When it is considered that Vancouver has still to celebrate the tenth anniversary of her incorporation, and when further the fact is recalled that until the completion of the Canadian Pacific Railway the entire province of British Columbia was to a great extent practically inaccessible and unknown, a brief notice of the city and surroundings may at the present time not unfittingly accompany this report.

Geographically situated 49° 17 N. Vancouver's latitude is midway between that of London and Paris, to which section of the European coast its mean temperature and climatic conditions are by no means dissimilar, while its longitude of 123° E is within 100 miles of mid distance between London and Hong Kong on the great circle of the earth. Vancouver is built on the south shore of Burrard Inlet, one of the finest and best sheltered harbours in the world. The approach from the Gulf of Georgia, which separates the mainland from Vancouver Island, known as the Lions' Gate, has at all states of the tide sufficient depth of water for the largest vessels afloat; the Narrows extend about a mile by the grandly wooded shore of Stanley Park, when the harbour opens out to a width of three miles, capable of affording anchorage room for the entire British Navy.

Five miles from the Lions' Gate the shores again contract, forming the second narrows beyond which the Inlet divides into two branches—the South Arm extending to Port Moody (twelve miles), while the North Arm, a favourite resort of pleasure seekers, penetrates the land between lofty mountains to a total distance of 23 miles, the soundings in the upper reaches exceeding in some places one hundred fathoms. The city proper occupies a peninsula whose ridge has an elevation of 230 feet, and this combined with a subsoil of hard blue clay, affords a splendid natural drainage, while the Southern portions of Fairview and Mount Pleasant are built on rising ground of a similar nature.

On the north shore of the Inlet, behind the township of North Vancouver, the mountains rise ridge upon ridge attaining within a distance of ten miles an altitude of nearly 5,000 feet; on the west the lofty range on Vancouver Island, distant about thirty miles, forms a screen from the storms of the Pacific Ocean, while to the south and east the snow-capped peaks of the Olympians and the Coast Ranges deck the horizon—a prominent feature being Mount Baker, Washington, 10,680 feet.

The entire country is clothed with dense evergreen forests of pine and cedar right up to the snow line, so that for picturesque scenery and surroundings Vancouver has few rivals among the commercial cities of the world.

The city has an unlimited supply of the purest water for all purposes, and an efficient and well-appointed Fire Brigade; the lighting is by electricity, and there is also an excellent supply of gas; it has well paved and macadamized streets and an efficient electric tramcar service.

Vancouver, having in its vicinity excellent quarries of granite and sandstone, can already boast of many handsome buildings, prominent among which may be mentioned the Post Office, Custom House, the Banks of Montreal, British North America, and British Columbia, Inns of Court Building, occupied by the Imperial Bank; the Hotel Vancouver, Vancouver Opera House, Hudson's Bay Stores, Sir Donald A. Smith and Lefevre Blocks. The Court House occupies a prominent and central position. There are four well-built and commodious public schools and a large central school. The places of public worship are: Episcopalian, 4; Presbyterian, 3; Methodist, 3; Congregational, 1; Reformed Episcopal, 1; Roman Catholic, 1; Jewish, 1.

Stanley Park, with its drive of eight miles through the primæval forest, is now attaining a world-wide fame, while the electric tramway to New Westminster (twelve miles), again through the forest, affords a speedy connection to the Fraser Valley.

Vancouver is steadily but surely becoming the chief distributing centre for the Province, and as population and demand increase so may industries and manufactures be expected to follow.

The following figures speak for themselves :

Local freight forwarded by rail—		TONS.
From Vancouver Station.............	in 1895	36,798
" " "	in 1890	16,451
Increase in five years........		20,347

EXTRACT FROM POSTMASTER-GENERAL'S REPORTS.

Gross revenue of Vancouver Post Office :

Year ending 30th June, 1895......	$29,375 55
" " 1890......	16,665 90
Increase in five years......	$12,709 65

From the City Records.

June 13th, 1886, Vancouver destroyed by fire, one building only left.

	Jan. 1, 1890.	Jan. 1, 1896.
Streets graded..............	50.33 miles.	75.19 miles.
" gravelled...........	8.35 "	10.95 "
Macadamized with broken rock	..... "	19.85 "
Paved with bituminous rock..	..... "	1.82 "
" " wood blocks......	..... "	.05 "
Planked......	6.30 "	3.30 "
Water mains, cast iron.......	10.14 "	40 "
Sewers.....................	7 "	22 "
Number of houses...........	1,462	3,200
Hydrants	65	210
Assessed value real property	$8,077,505.00	$13,432,884.00
" " improvem'ts.	$1,326,940.00	$ 4,328,180.00

	1891.	1896.
Population, Dominion Census .	14,000	Estimated 20,000

CUSTOMS OF THE PORT.

RATES OF COMMISSION.

Amended Schedule recommended by Special Committees and adopted by the Board.

XV. When no special agreement exists, the following shall be collectable :—

1.	On purchase of stocks, bonds, and all kinds of securities, including the drawing of bills for payment of the same	2½ per cent.
2.	On sale of stocks, bonds, and all kinds of securities, including remittances in bills and guarantee	2½ per cent.
3.	On purchase and sale of specie, gold-dust, and bullion	1 per cent.
4.	On sale of bills of exchange, with endorsement	2½ per cent.
5.	On sale of bills of exchange, without endorsement	½ per cent.
6.	For endorsing bills of exchange, when desired	2½ per cent.
7.	On sale of produce and merchandise, with guarantee	7½ per cent.
8.	On goods received on consignment, and afterwards withdrawn	2½ per cent.
9.	On purchase and shipment of merchandise, on cost and charges	5 per cent.
10.	For collecting and remitting delayed or litigated account	10 per cent.
11.	For collecting freight money, on amount collected	2½ per cent.
12.	For collecting general claims	5 per cent.
13.	For collecting general average,—on the first $20,000 or any smaller amount	5 per cent.
14.	For collecting general average,—on any excess over $20,000	2½ per cent.
15.	On purchase or sale of vessels	5 per cent.
16.	For entering and clearing vessels and attending to the Customs business of the ship	$ 25.00

17. For "Port Agency" attending to discharge of cargo and transacting ship's business other than entering and clearing at Customs:

On vessels not exceeding 250 tons cargo.		$ 25.
do	with 251 tons and not exceeding 500 tons cargo	35.
do	with 501 tons and not exceeding 750 tons cargo	50.
do	with 751 tons and not exceeding 1,000 tons cargo	75.
do	over 1,000 tons	100.
do	in ballast	10.

18. For disbursements of vessels by consignees .... 2½ per cent.
19. For procuring freight or passengers ..... 5 per cent.
20. For chartering vessels, on amount of freight, actual or estimated, to be considered as due when the "Charter Parties" or memorandum of their conditions, etc., are signed .... 5 per cent.
21. For landing and re-shipping goods from vessels in distress, on invoice value, or in its absence, on market value .... 5 per cent.
22. For receiving and forwarding goods,—on invoice amount .... 2½ per cent.
23. For effecting marine insurance,—on the amount of premium .... 5 per cent.
24. The foregoing Commissions to be exclusive of Brokerage, and every charge actually incurred.
25. Vessels to pay clerk hire and the labour on wharf, sorting and delivering cargo.

Members of Special Committee.
RICHARD ALEXANDER.
E. E. EVANS.
H. DARLING.
C. G. JOHNSON.
ROBT. H. PATERSON.

cia

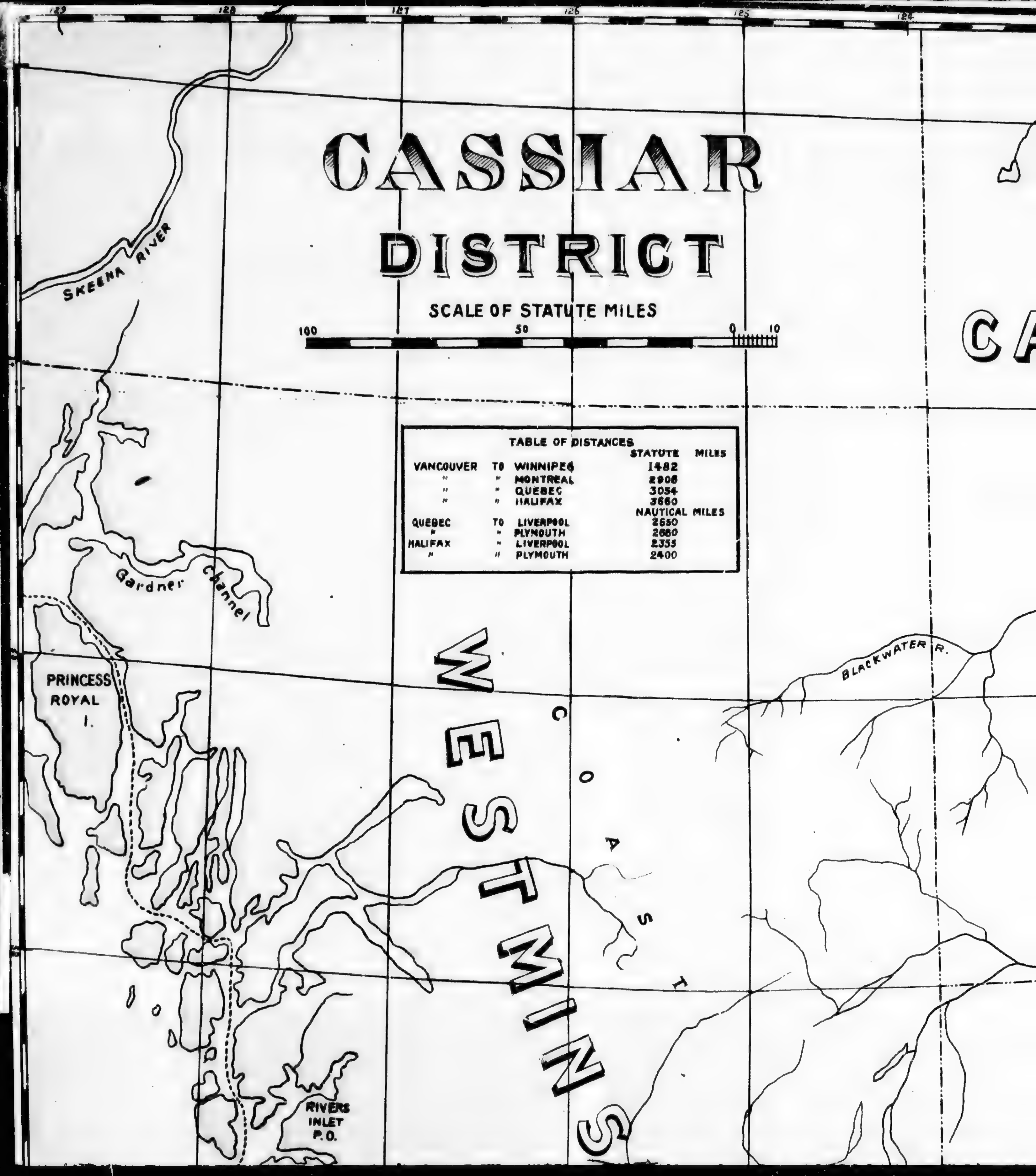
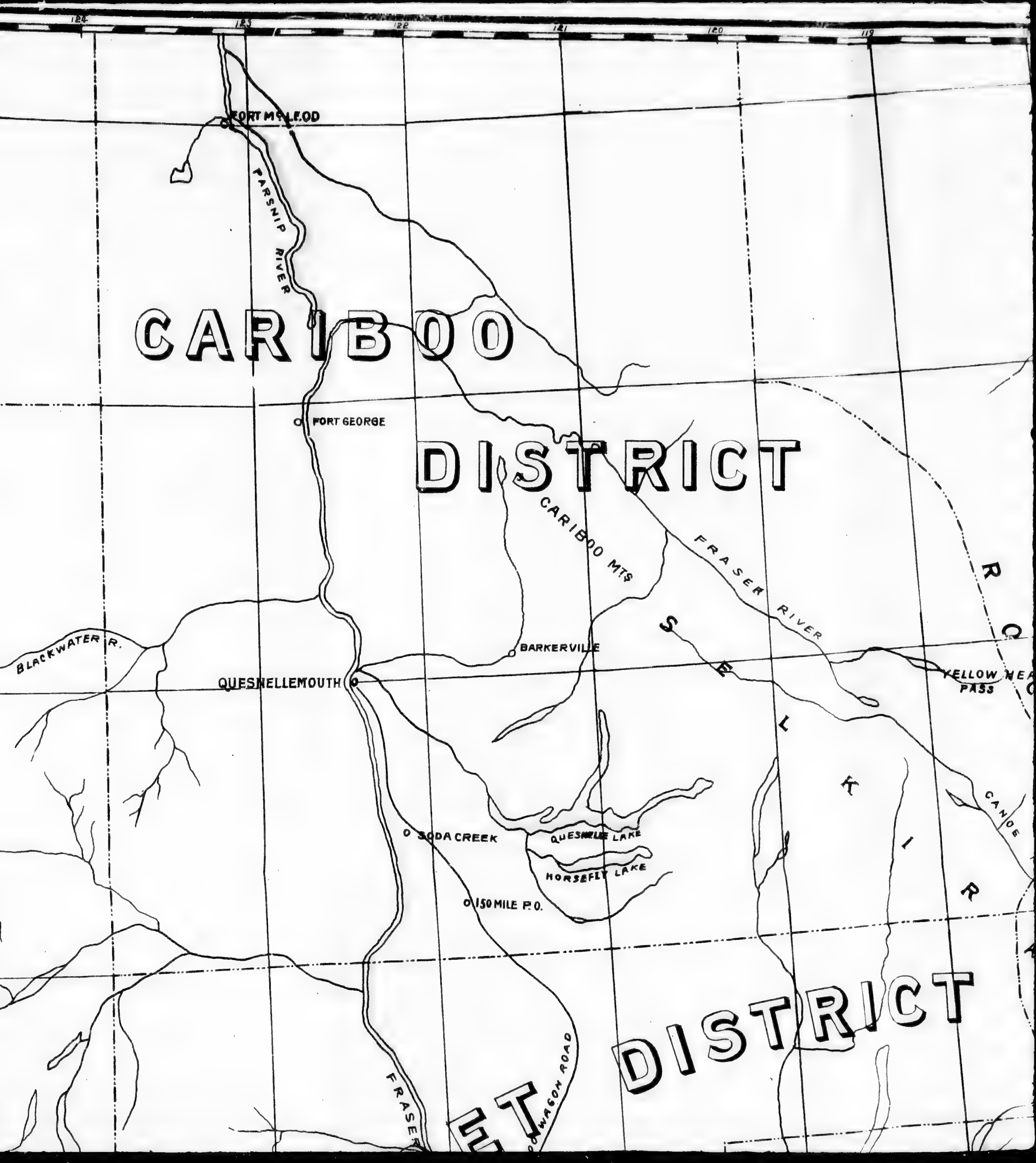
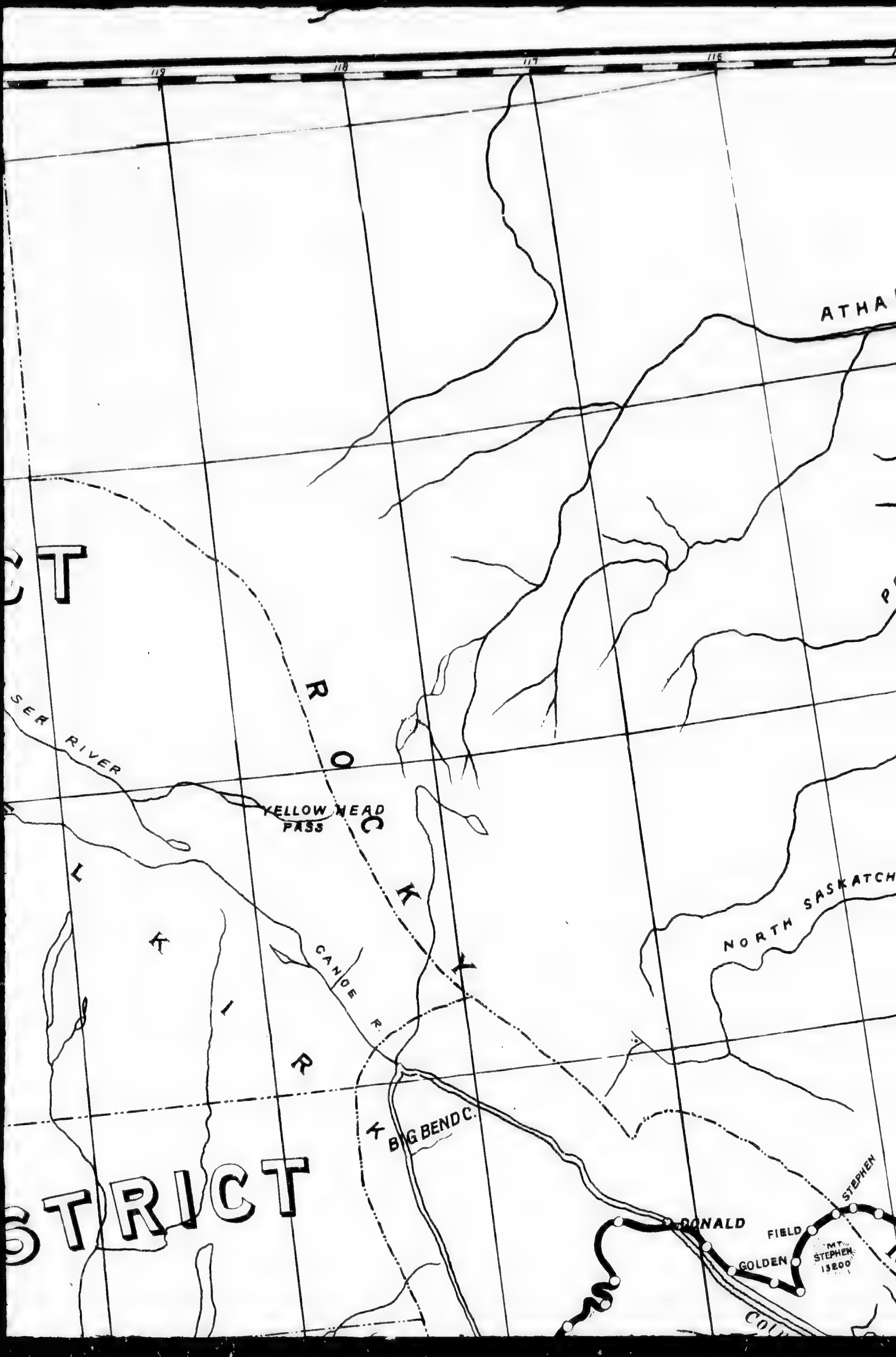


TABLE OF DISTANCES

			STATUTE MILES
VANCOUVER	TO	WINNIPEG	1482
"	"	MONTREAL	2906
"	"	QUEBEC	3054
"	"	HALIFAX	3660
			NAUTICAL MILES
QUEBEC	TO	LIVERPOOL	2650
"	"	PLYMOUTH	2680
HALIFAX	"	LIVERPOOL	2355
"	"	PLYMOUTH	2400


124
123
122
121
120
119
FORT McLEOD
PARSNIP RIVER
CARIBOO
DISTRICT
FORT GEORGE
CARIBOO MTS
FRASER RIVER
S E L K I R
R O C
BLACKWATER R.
BARKERVILLE
QUESNELLEMOUTH
YELLOW HEA
PASS
CANOE
SODA CREEK
QUESNELLE LAKE
HORSEFLY LAKE
150 MILE P.O.
ET
DISTRICT
FRASER
WAGON ROAD


119
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116
ATHA
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SER RIVER
YELLOW HEAD
PASS
R
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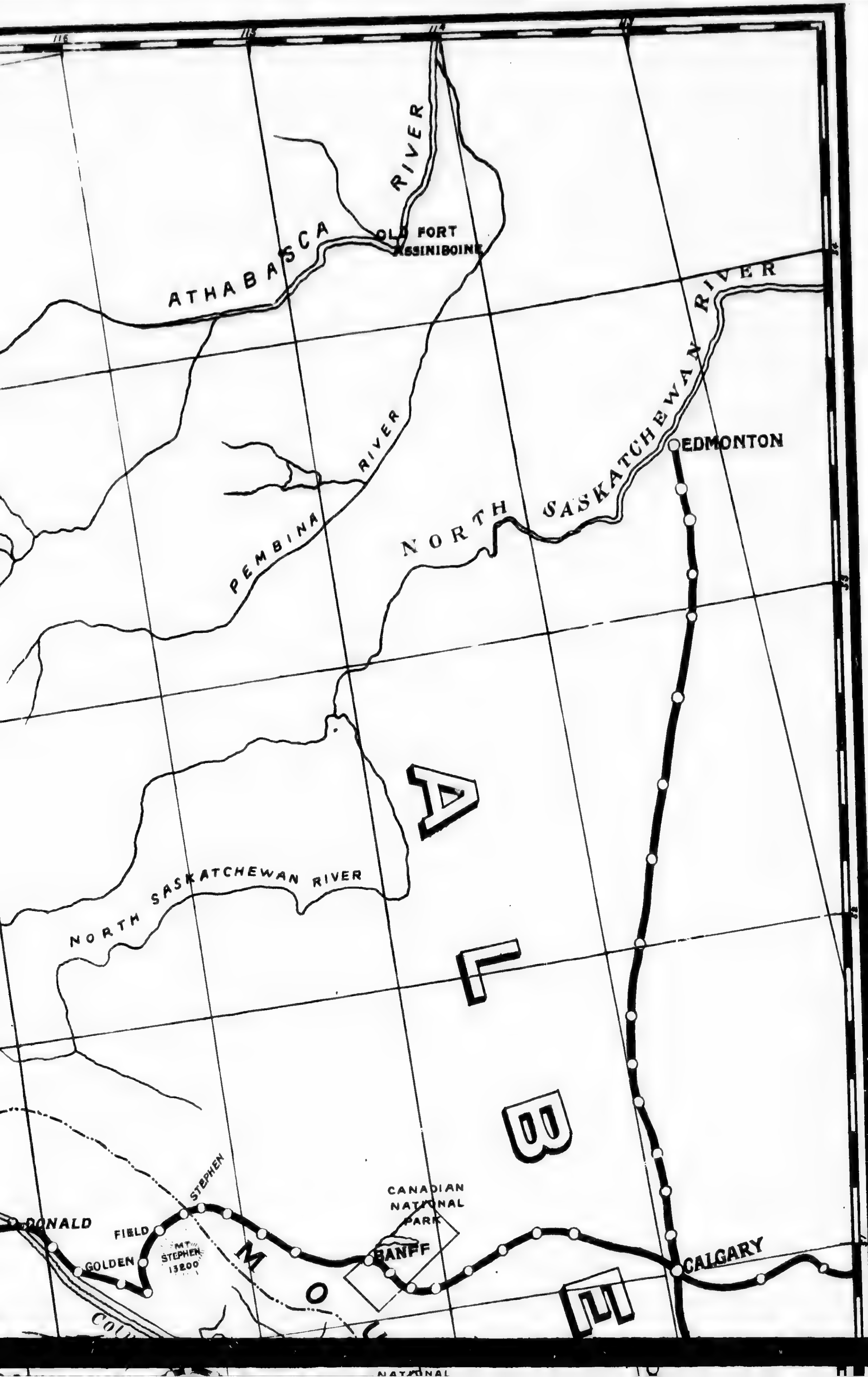
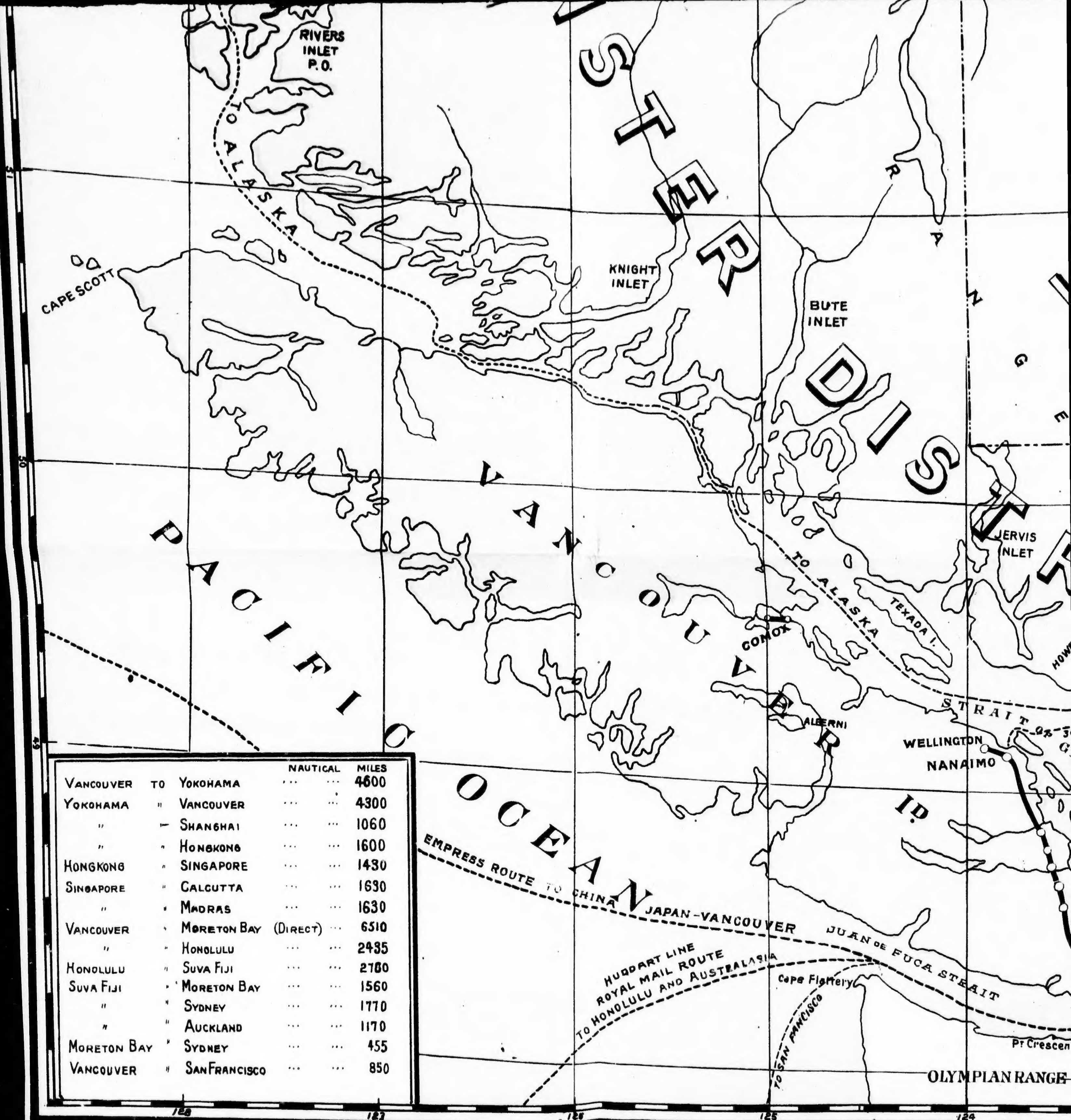
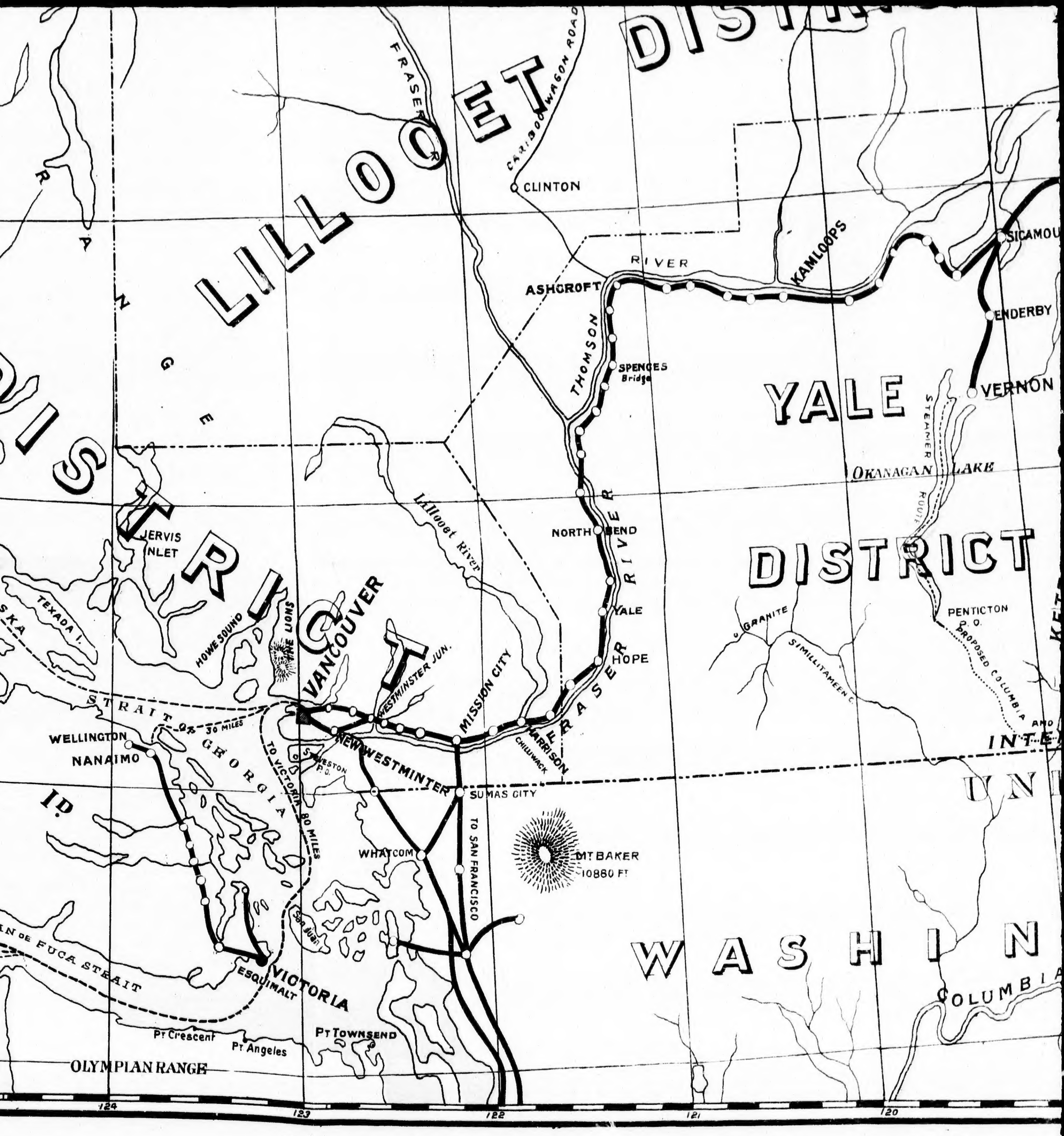
R
K
CANOE R.
NORTH SASKATCH
BIG BEND C.
STRICT
STEPHEN
DONALD
FIELD
GOLDEN
MT. STEPHEN 13200
COL

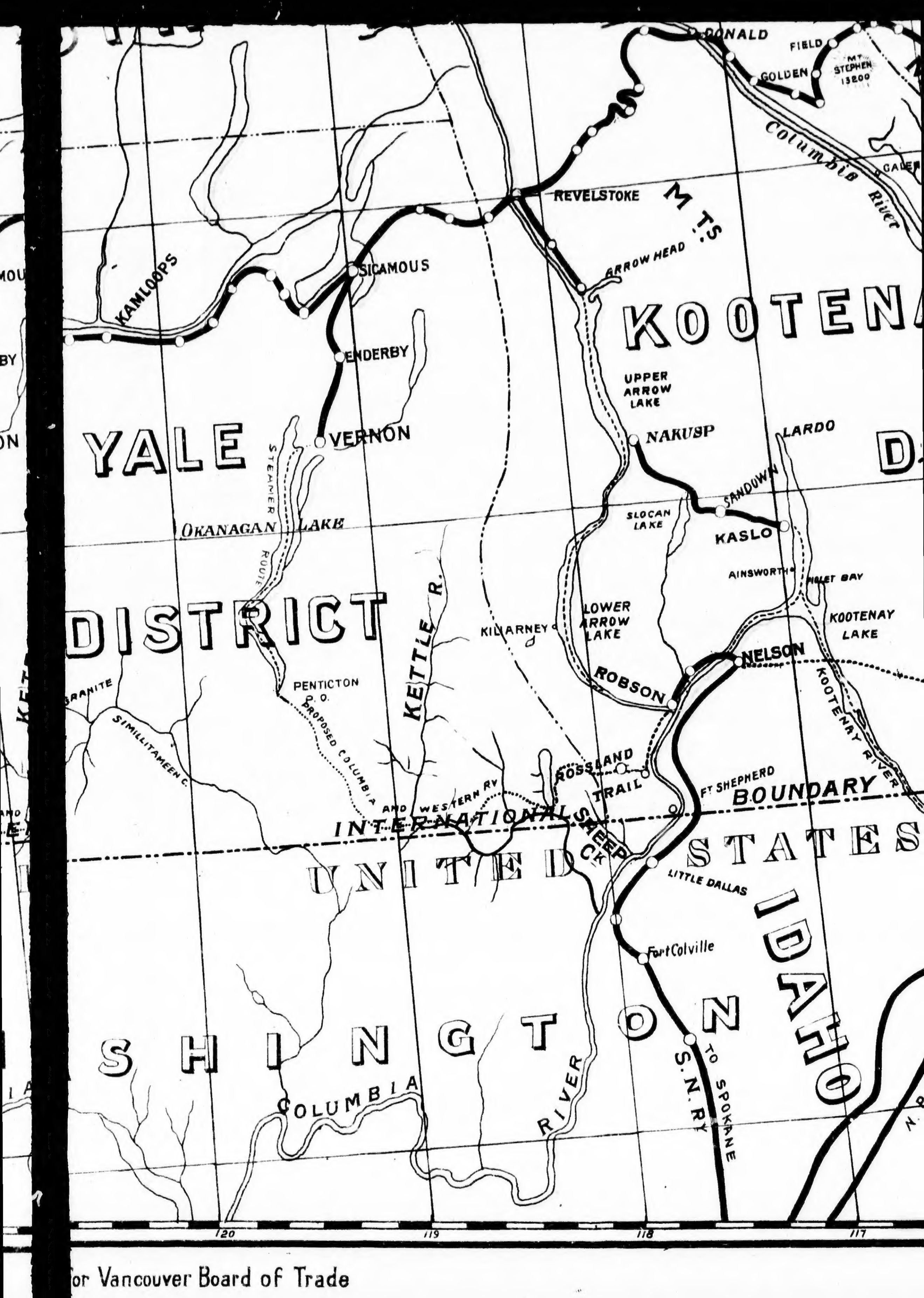

116
115
114
ATHABASCA RIVER
OLD FORT ASSINIBOINE
NORTH SASKATCHEWAN RIVER
EDMONTON
PEMBINA RIVER
NORTH SASKATCHEWAN RIVER
ALBE
MOU
DONALD
FIELD
STEPHEN
GOLDEN
MT STEPHEN 13200
CANADIAN NATIONAL PARK
BANFF
CALGARY
COL
NATIONAL



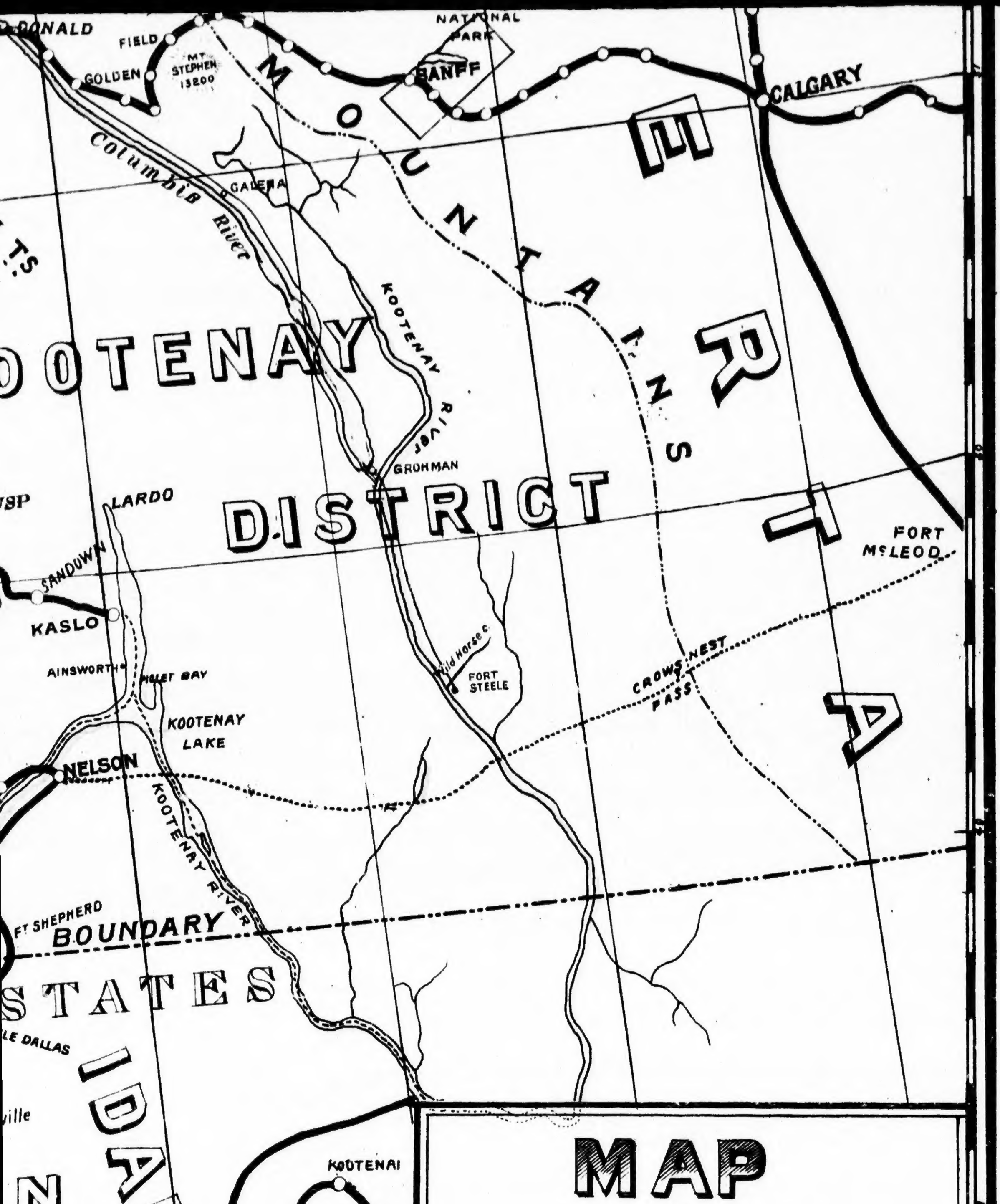
				NAUTICAL MILES
VANCOUVER	TO	YOKOHAMA	... ...	4600
YOKOHAMA	"	VANCOUVER	... ...	4300
"	–	SHANGHAI	... ...	1060
"	"	HONGKONG	... ...	1600
HONGKONG	"	SINGAPORE	... ...	1430
SINGAPORE	"	CALCUTTA	... ...	1630
"	"	MADRAS	... ...	1630
VANCOUVER	"	MORETON BAY	(DIRECT) ...	6510
"	"	HONOLULU	... ...	2435
HONOLULU	"	SUVA FIJI	... ...	2780
SUVA FIJI	"	MORETON BAY	... ...	1560
"	"	SYDNEY	... ...	1770
"	"	AUCKLAND	... ...	1170
MORETON BAY	"	SYDNEY	... ...	455
VANCOUVER	"	SAN FRANCISCO	... ...	850



Specially prepared from latest sources of information for Vancouver Board of Trade



or Vancouver Board of Trade



MAP
OF THE
SOUTHERN PORTION
OF
BRITISH COLUMBIA
1896

THE PROVINCE LITHO., VANCOUVER B.C.